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**Secondary Traumatic Stress and Vicarious Posttraumatic  
Growth in New Zealand Clinical Psychologists: The  
Consequences of Working with Traumatised Clients**

A thesis

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of the requirements for the degree

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## **Abstract**

Clinical psychologists who provide trauma treatment are vicariously exposed to their clients' traumatic experiences. The responsibility of clinical psychologists to practise both effectively and safely makes assessing the negative and positive psychological consequences of vicarious exposure to trauma imperative. If provisions are not put in place to prevent the negative psychological consequences and facilitate the positive psychological consequences, then detrimental outcomes may arise for the clinician, their clients, and the organisation that they work for.

The present study was designed to assess the experience of secondary traumatic stress (STS) and vicarious posttraumatic growth (VPTG) in clinical psychologists who work with traumatised clients in New Zealand. The purpose of this study was to identify the factors that were related to these phenomena, including the level of vicarious exposure to trauma (years working as a clinical psychologist, hours per week working with traumatised clients, and percentage of traumatised clients on caseload), posttraumatic cognitions, secondary trauma self-efficacy (STSE), perceived social support, and engagement in self-care activities.

Seventy-two clinical psychologists completed the online survey. Significant relationships were found between the main variables in this study: STS correlated positively with posttraumatic cognitions and VPTG correlated positively with self-care. Non-hypothesised significant relationships were also found. Posttraumatic cognitions correlated significantly with hours per week working with traumatised clients, STSE, perceived social support, and self-care. Additionally, self-care correlated significantly with perceived social support.

The results of this study suggest that clinical psychologists who experience more posttraumatic cognitions following vicarious exposure to trauma may be more likely to experience STS. The results also suggest that those clinical psychologists who engage in more self-care activities may be more likely to experience VPTG. As the majority of the proposed hypotheses were not supported, it appears that the factors thought to be related to STS and VPTG may not be as pertinent as previous research

indicates. Overall, the results suggest that there may be other factors not explored in this study that may influence the experience of STS and VPTG.

As discrepant results were found in this study, future research should continue to investigate the factors that are related to STS and VPTG in clinical psychologists. Investigation into the ways in which posttraumatic cognitions following vicarious exposure to trauma can be prevented, or reduced, would also be beneficial, as would investigation into the specific self-care activities that are related to VPTG. Future research could also investigate the barriers that may prevent clinical psychologists from engaging in self-care.

Taken together, this study provides insight into the factors that are related to STS and VPTG, and importantly, identifies how STS may be prevented and VPTG may be facilitated.

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## **Chapter One: Introduction**

Professionals who provide services to traumatised individuals may be exposed to a range of traumatic events. According to the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013), an event can be considered traumatic if it involves “exposure to actual or threatened death, serious injury, or sexual violence” (p.271). Examples of traumatic events include being kidnapped, torture, and physical or sexual assault (American Psychiatric Association, 2013). The consequences that may result for individuals who have experienced a traumatic event are well documented in the literature, particularly in relation to Posttraumatic Stress Disorder (PTSD). Less documented however, are the consequences that may result for professionals who assist traumatised individuals in their recovery (Barrington & Shakespeare-Finch, 2013), particularly specific groups of clinicians (Ben-Porat, 2015). The present study investigated the negative and positive psychological consequences that may result for clinical psychologists who work with traumatised clients in New Zealand. In the literature, the negative psychological consequences have been described as secondary traumatic stress (STS; Figley, 1995) and the positive psychological consequences have been described as vicarious posttraumatic growth (VPTG; Arnold, Calhoun, Tedeschi & Cann, 2005). Both of these phenomena result from vicarious exposure to trauma.

Vicarious exposure to trauma refers to being indirectly exposed to a traumatic event (Cieslak et al., 2013), for example listening to the aversive details of another’s traumatic experience (Pearlman & Saakvitne, 1995). Professionals who provide services to traumatised individuals may be frequently vicariously exposed to trauma, as research has shown the lifetime prevalence of experiencing a traumatic event amongst the general population to be as high as 80% (de Vries & Olf, 2009). Due to the type of treatment that they provide, clinicians may be subject to a greater depth of vicarious exposure to trauma than other professionals. This is because they provide acute interventions and treatment for more chronic reactions to trauma, for example PTSD (Elwood, Mott, Lohr & Galovski, 2011). PTSD treatments, such as Cognitive Processing Therapy and Prolonged

Exposure (Resick & Schnicke, 1992; Foa, Rothbaum, Riggs & Murdock, 1991), “involve breaking through the avoidance of traumatic memories and reminders inherent in PTSD” (Elwood et al., 2011, p.25). In order to do this, clients are asked to recount the traumatic event that they experienced in significant levels of detail. It is this vicarious exposure to trauma that may lead the clinician to experience negative and/or positive psychological consequences.

### **Negative Psychological Consequences of Vicarious Exposure to Trauma**

The negative psychological consequences that may result from vicarious exposure to trauma have been described in the literature using a number of different constructs, including STS (Figley, 1995), compassion fatigue (Figley, 2002), burnout (Maslach, 1982), and vicarious traumatization (McCann & Pearlman, 1990). STS refers to the presence of PTSD symptoms for those who play a significant role in the life of an individual who has experienced a traumatic event, such as friends, family, and trauma workers (Figley, 1995). With identical symptoms, the only aspect that differentiates STS from PTSD is that STS results from being indirectly exposed to a traumatic event as opposed to directly experiencing a traumatic event. However, as the DSM-5 specifies “experiencing repeated or extreme exposure to aversive details of the traumatic event(s)” (American Psychiatric Association, 2013, p.271) as a Criterion A stressor for PTSD, STS can be considered as a form of PTSD. STS occurs both quickly and unexpectedly (Figley, 1995), and is a natural consequence for those who help others (Elwood et al., 2011).

The term STS is often used synonymously with compassion fatigue (e.g., Figley, 2002; Salston & Figley, 2003). However, when these terms are used separately, STS is applied to various populations whereas compassion fatigue is applied exclusively to those in helping professions, for example first responders (Elwood et al., 2011). In recent years, researchers have advocated for using the term compassion fatigue rather than STS, as it is less clinical in nature and thus, less derogatory (Figley, 2002). Unlike STS, the consequences that are associated with the

symptoms of compassion fatigue are outlined. The latter include a decreased capacity and/or interest in being empathetic towards clients. Although compassion fatigue may occur for professionals other than clinicians (Figley, 1995), much of the research surrounding this phenomenon has focused on clinicians who provide services to traumatised individuals (e.g., Adams, Boscarino & Figley, 2006).

Burnout is described as “a state of physical, emotional, and mental exhaustion caused by long term involvement in emotionally demanding situations” (Pines & Aronson, 1998, p.9). The characteristic features of burnout include depersonalisation, hopelessness, and feeling overwhelmed, as well as a reduced sense of accomplishment and self-esteem (Phelps, Lloyd, Creamer & Forbes, 2009). Whereas STS is characterised by psychological symptoms, burnout is characterised by psychological, as well as emotional and physical, depletion. Moreover, burnout develops gradually and is considered to be a general concept that is not specific to those who work with individuals who have experienced a traumatic event (Salston & Figley, 2003). Unlike STS, which results from vicarious exposure to trauma, research suggests that burnout results from factors such as a heavy workload, a stressful working environment, and conflict with peers (Maslach & Leiter, 1997).

Vicarious traumatisation refers to “the transformation in the inner experience... that comes about as a result of empathetic engagement with clients’ trauma material” (Pearlman & Saakvitne, 1995, p.31). As stated previously, STS is characterised by psychological symptoms; vicarious traumatisation on the other hand, is characterised by changes to beliefs about the self, others, and the world (McCann & Pearlman, 1990; Pearlman & Saakvitne, 1995). As the DSM-5 (American Psychiatric Association, 2013) has included negative changes to cognitions as a symptom of PTSD, differentiating between STS and vicarious traumatisation has become increasingly difficult; both phenomena now described by inner changes. Unlike STS however, vicarious traumatisation develops in response to cumulative exposure to trauma (Pearlman & Saakvitne, 1995).

These terms, despite the subtle differences that exist between them, have been used interchangeably to refer to the consequences of working with individuals who have experienced a traumatic event. This has made the extant literature difficult to interpret and understand (Najjar, Davis, Beck-Coon & Doebbling, 2009). According to Craig and Sprang (2010), there are no definitive data to suggest that the concepts differ, meaning that a decision regarding the most appropriate term to use would be unwarranted. Following Elwood et al., (2011) and Hensel, Ruiz, Finney, and Dewa (2015), this study uses the term STS to refer to the development of PTSD symptoms resultant from vicarious exposure to trauma. PTSD symptoms include intrusion, avoidance of internal and/or external reminders of the traumatic event, marked changes in arousal and reactivity, and negative changes to cognitions and mood (American Psychiatric Association, 2013). As such, if an individual meets the diagnostic criteria for PTSD following vicarious exposure to a traumatic event, they can be considered to have Secondary Traumatic Stress Disorder (Figley, 1995).

### **Positive Psychological Consequences of Vicarious Exposure to Trauma**

Several concepts have also been used to describe the positive psychological consequences of vicarious exposure to trauma, including VPTG (Arnold et al., 2005). In order to understand the concept of VPTG, posttraumatic growth (PTG) must first be understood. PTG refers to the positive cognitive, emotional, spiritual, and relational changes that may occur after being exposed to a traumatic event (Tedeschi & Calhoun, 2004). Such changes are experienced across three broad domains, including self-perception, interpersonal relationships, and philosophy of life (Tedeschi & Calhoun, 1996), and may lead to increased personal strength, improved relations with others, positive spiritual shifts, a greater appreciation of life, and the awareness of new possibilities (Tedeschi & Calhoun, 1996). VPTG refers to the development of these changes following indirect, rather than direct, exposure to trauma (Arnold et al., 2005).

Being exposed to a traumatic event can shatter an individual's schemas, or assumptions, expectations, and beliefs about the self, others, and the world (Calhoun & Tedeschi, 1998, 2001; Tedeschi & Calhoun, 2004). In order to develop new schemas, the traumatic event must be cognitively processed. This processing occurs automatically, as intrusive rumination, following exposure to trauma. For PTG to be experienced, rumination must become purposeful (Calhoun & Tedeschi, 1998), enabling the individual to view the traumatic event as a unique experience. Some enduring distress may occur whilst experiencing PTG, however at a much lower level than was experienced immediately following the traumatic event (Joseph & Linley, 2006).

Compassion satisfaction and resilience are also terms used in the literature to describe the positive psychological consequences of vicarious exposure to trauma. Compassion satisfaction is described as the pleasure that one gains from doing their job well (Stamm, 2005). Whereas VPTG refers to the positive cognitive, emotional, spiritual, and relational changes that can occur following vicarious exposure to trauma, compassion satisfaction refers to a more general positive emotional state. Resilience is also more general, referring to the ability to overcome a negative event or experience and return to former levels of functioning (Clay, Knibbs & Joseph, 2009; Scales, Benson, Leffert & Blyth, 2000). The latter implies that resilience is characterised by the absence of negative consequences. Unlike resilience, VPTG is characterised by the presence of positive consequences. Other terms, for example thriving, stress-related growth, and adversarial growth, have also been used interchangeably with VPTG (e.g., Linley & Joseph, 2004). This study uses the term VPTG as it is specific to growth following indirect, rather than direct, exposure to trauma and not an event or experience that is generally stressful and/or unpleasant.

### **Purpose of the Study**

All psychologists in New Zealand are required to “monitor their ability to work effectively in order to avoid conditions that could result in impaired judgement and interfere with their ability to practise safely” (New Zealand Psychological Society, 2002, p.16). Psychologists who experience such

conditions are responsible for seeking appropriate help and/or discontinuing practice for an appropriate period of time (New Zealand Psychological Society, 2002). Investigating STS is therefore important, as the consequences associated with this phenomenon may impair the ability of the clinician to effectively help those who require trauma treatment (Figley, 1995). In addition to decreased effectiveness for clinicians, the consequences associated with STS have been proposed to lead to difficulties in relationships outside of the context of trauma treatment as well as early resignation and increased staff turnover (Sexton, 1999). Investigating VPTG is also important as, unlike STS, VPTG may lead to positive consequences for the clinician and the client. The experience of VPTG may lead clinicians to view their work and their clients in new and empowering ways (Arnold et al., 2005), which in turn, may lead to increased clinician effectiveness, trauma therapy outcomes, and role retention (Barrington & Shakespeare-Finch, 2013). The purpose of this study was thus, to identify the factors that were related to STS and VPTG in clinical psychologists who work with traumatised clients in New Zealand. Identifying such factors may not only help to determine those clinical psychologists who are more likely to experience STS and VPTG, but may also help to determine the ways in which STS can be prevented and VPTG can be facilitated.

### **Theoretical Model**

The theoretical model for this study was developed in order to illustrate the proposed relationships between the predictor, mediator, and criterion variables. There are two parts included in the theoretical model. Part A (Figure 1.1) of the theoretical model illustrates the proposed direct relationships between the predictor variables (years working as a clinical psychologist, hours per week working with traumatised clients, percentage of traumatised clients on caseload, posttraumatic cognitions, secondary trauma self-efficacy; STSE, perceived social support, and self-care) and the two criterion variables: STS and VPTG. Part B (Figure 1.2) of the theoretical model illustrates the proposed relationships between the mediator variables (STSE and perceived social support), three of the



predictor variables (posttraumatic cognitions, perceived social support, and STSE), and the two criterion variables: STS and VPTG.

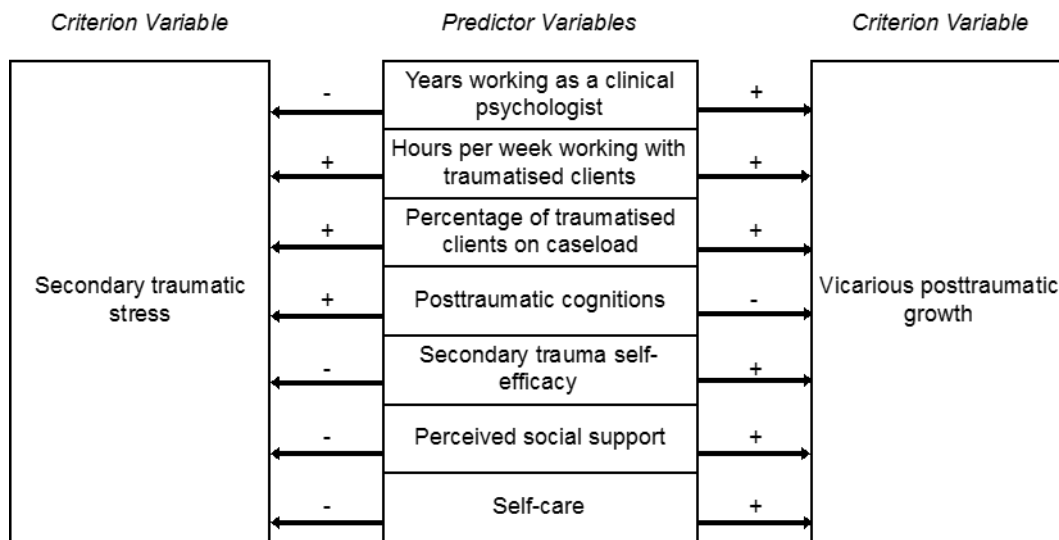


Figure 1.1. Model of direct relationships between the predictor variables and secondary traumatic stress and vicarious posttraumatic growth.

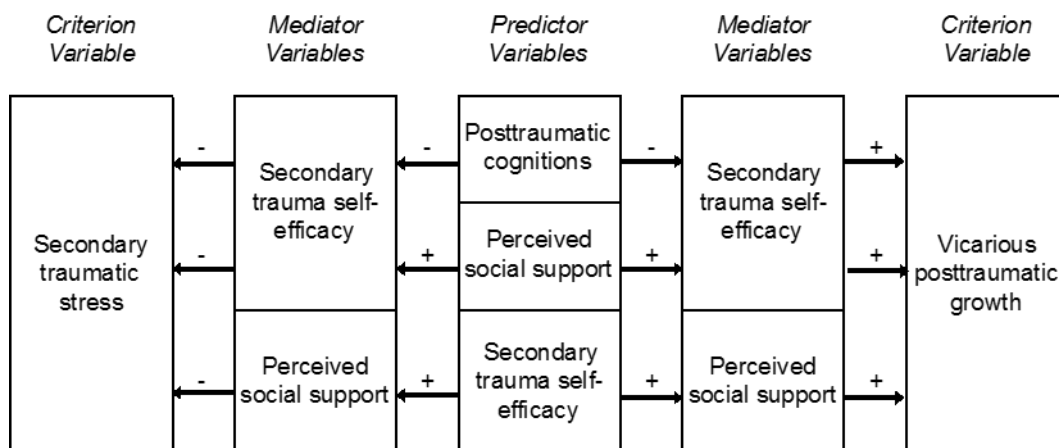


Figure 1.2. Model of secondary trauma self-efficacy and perceived social support mediating the relationships between predictor variables and secondary traumatic stress and vicarious posttraumatic growth.

## Factors Related to Secondary Traumatic Stress and Vicarious Posttraumatic Growth

There are several factors that may be related to STS and VPTG. This study focused on factors related to the level of vicarious exposure to trauma, as well as posttraumatic cognitions, STSE, perceived social support, and self-care.

**Vicarious exposure to trauma.** As previously stated, vicarious exposure to trauma refers to being indirectly exposed to trauma (Cieslak et al., 2013). Vicarious exposure to trauma is both difficult to conceptualise and measure. In order to quantify the level of vicarious exposure to trauma, researchers have used several measures, such as the number of years working in the trauma field, the number of hours spent working with clients, and the percentage of clients on caseload (Elwood et al., 2011). As vicarious exposure to trauma is necessary for both STS and VPTG to occur, it is reasonable to assume that the level of vicarious exposure to trauma should be positively associated with these phenomena. However, studies examining the relationship between the number of years working in the trauma field and STS in clinicians, for example clinical and counseling psychology graduate students, have found a shorter number of years working in the field to be associated with greater STS symptom severity (Adams & Riggs, 2008; Cunningham, 2003; Kadambi & Truscott, 2004; Pearlman & Mac Ian, 1995; Way, Van Deusen, Marti, Applegate & Jandle, 2004). An explanation for these findings may be that those who experience the highest levels of STS, as a result of their work with traumatised individuals, are more likely than those who are less affected, to leave the field.

In line with the latter explanation, Bride and colleagues (2007) found STS symptoms in child protective services personnel to correlate negatively with intent to remain in the field. In a study of psychotherapists treating sexual trauma, Kassam-Adams (1999) found that psychotherapists who spent more hours working with individuals who had experienced sexual trauma, rather than those who had not, to be associated with STS. This finding suggests that time treating non-traumatised clients may help to regulate the likelihood of experiencing STS. A number of other studies have also found evidence for the relationship between a higher proportion of time spent working with traumatised clients and STS symptoms (Bober & Regehr, 2006; Brady, Guy, Poelstra & Brokaw, 1999; Creamer & Liddle, 2005; Galek, Flannelly, Greene, & Kudler, 2011). Similarly, studies have supported the relationship between the percentage of traumatised clients on caseload and STS among professionals working with traumatised individuals, for

example female counselors working with victims of sexual violence (Brady et al., 1999; Chrestman, 1999; Schauben & Frazier, 1995; Sprang, Clark & Whitt-Woosley, 2007). From this research, the following hypotheses were predicted:

**Hypothesis 1:** Years working as a clinical psychologist will be negatively correlated with STS.

**Hypothesis 2:** Hours per week working with traumatised clients will be positively correlated with STS.

**Hypothesis 3:** Percentage of traumatised clients on caseload will be positively correlated with STS.

Although a lack of research exists regarding the relationship between the number of years working in the trauma field and VPTG, studies have found a positive correlation between these two variables in therapists working at social service departments (Ben-Porat, 2015), physicians and nurses (Mairean, 2016), and a variety of professionals, including psychologists, working with refugees who have experienced war and/or torture (Kjellenberg, Nilsson, Daukantaite & Cardena, 2014). In a sample of clinical and counseling psychologists, Linley and Joseph (2007) found an increased number of hours spent in therapy with clients to be associated with more personal growth and positive psychological changes, both characteristics of VPTG. The described findings suggest that time may be a factor that facilitates the development of VPTG for professionals who are vicariously exposed to trauma. Support for this suggestion has been found in clinical and managerial staff working with refugees (Barrington & Shakespeare-Finch, 2013), interpreters (Splevins, Cohen, Joseph, Murray & Bowley, 2010), and social workers (Shamai & Ron, 2009). These professionals reported that distress levels to decrease over time and be replaced by growth. In their meta-synthesis examining the impact of trauma work, Cohen and Collens (2013) also suggested that time (or experience) seemed to play a role in decreasing distress levels. It is possible that professionals who work with traumatised individuals may initially experience distress, yet over time, they may figure out ways to process this distress and find meaning in their work, which may lead them

to experience VPTG (Manning-Jones, de Terte & Stephens, 2015). The association between percentage of clients on caseload and VPTG was not found in any studies. However, as VPTG occurs as a result of vicarious exposure to trauma, it is reasonable to assume that these two variables will correlate positively. Based on this research, it was hypothesised that:

**Hypothesis 4:** Years working as a clinical psychologist will be positively correlated with vicarious posttraumatic growth.

**Hypothesis 5:** Hours per week working with traumatised clients will be positively correlated with vicarious posttraumatic growth.

**Hypothesis 6:** Percentage of traumatised clients on caseload will be positively correlated with vicarious posttraumatic growth.

**Posttraumatic cognitions.** Posttraumatic cognitions refer to the negative thoughts and beliefs about the self, others, and the world that occur following exposure to a traumatic event (Barton, Boals & Knowles, 2013). Such maladaptive interpretations of traumatic events are believed to be associated with the development, and maintenance, of PTSD (Ehlers & Clark, 2000; Foa & Rothbaum, 1998), and thus may also be associated with STS. As posttraumatic cognitions render an individual less capable to manage trauma-related demands (Cieslak, Benight & Caden Lehman, 2008), it is not surprising that they were found to positively correlate with PTSD symptoms, and negatively correlate with PTG, in a sample of undergraduate psychology students (Barton et al., 2013). This finding suggests that a lack of negative cognitions allows for PTG following exposure to trauma. Although it seems counterintuitive, research has suggested that the negative and positive psychological consequences resultant from exposure to trauma may not be on opposing ends of the spectrum (Linley, Joseph, Cooper, Harris & Meyer, 2003). As PTG measures assess the construal of growth, Barton et al., (2013) suggested that cognitive construals (i.e., posttraumatic cognitions) following exposure to a traumatic event should be associated with the experience of PTG. The authors proposed that the relationship between posttraumatic cognitions and PTG may occur by reason of PTG occurring in relation to a

traumatic event significant enough to challenge previous schemas. From this research, the following hypotheses were predicted:

**Hypothesis 7:** Posttraumatic cognitions will be positively correlated with STS.

**Hypothesis 8:** Posttraumatic cognitions will be negatively correlated with vicarious posttraumatic growth.

**Secondary trauma self-efficacy.** STSE refers to the “perceived ability to cope with the challenging demands resulting from work with traumatised clients and perceived ability to deal with secondary traumatic stress symptoms” (Cieslak et al., 2013, p.918). As self-efficacy is a context-specific belief (Bandura, 1997), this study employed self-efficacy specific to STS. Not only does one’s perceived ability to manage stressors affect how difficulties are construed, but also how difficulties are coped with (Benight & Bandura, 2004). As such, one’s perceived ability to manage stressors may help to overcome the difficulties that arise following exposure to trauma (Benight & Bandura, 2004). According to Cieslak and colleagues (2008), perceived incapability to manage trauma-related demands contributes to the development, and maintenance, of PTSD symptoms. In a sample of clinical psychologists, counselors, and social workers providing services to military personnel, STSE was found to correlate negatively with STS (Cieslak et al., 2013). This same negative correlation was also found amongst nurses, paramedics, and social workers providing services to civilian populations who had directly experienced a traumatic event (Cieslak et al., 2013). In both of the identified samples, positive correlations between STSE and VPTG were found (Cieslak et al., 2013). Self-efficacy has also been found to predict VPTG in healthcare workers (Shoji et al., 2014; Rogala et al., 2015). Furthermore, Shiri, Wexler and Kreitler (2010) found that having optimistic beliefs about the future and about the benefits of suffering were positively associated with aspects of VPTG among nurses and rehabilitation workers. These findings suggest that beliefs about the ability to deal with difficulties relating to vicarious exposure to trauma are important in predicting lower STS and higher VPTG. Based on this research, it was hypothesised that:

**Hypothesis 9:** Secondary trauma self-efficacy will be negatively correlated with secondary traumatic stress.

**Hypothesis 10:** Secondary trauma self-efficacy will be positively correlated with vicarious posttraumatic growth.

According to Benight and Bandura (2004), self-efficacy is related to other cognitions that predict health-related outcomes. Studies have found coping self-efficacy (Benight, Shoji, James, Waldrep & Delahanty, 2015; Cieslak et al., 2008) and STSE (Cieslak et al., 2013) to be negatively associated with negative cognitions. Coping self-efficacy has also been found to mediate the relationship between negative cognitions and posttraumatic distress in two different samples: women who have experienced child sexual abuse and individuals who have experienced motor vehicle accidents (Cieslak et al., 2008). In both of these samples, negative cognitions predicted beliefs about one's ability to manage trauma-related demands, which in turn was related to posttraumatic distress. Self-efficacy may also play an important mediating role in the relationship between the appraisal of stressful events and compassion satisfaction (Prati, Pietrantonio & Cicognani, 2011). It has been suggested that future research should investigate whether negative cognitions operate through STSE (Cieslak et al., 2013). From this research, the following hypotheses were predicted:

**Hypothesis 11:** Secondary trauma self-efficacy will act as a mediator between posttraumatic cognitions and secondary traumatic stress.

**Hypothesis 12:** Secondary trauma self-efficacy will act as a mediator between posttraumatic cognitions and vicarious posttraumatic growth.

**Perceived social support.** Social support is a complex construct that has been defined in several different ways in the literature (Williams, Barclay & Schmied, 2004). Perceived social support, or how supported one feels (Schwarzer & Knoll, 2007), rather than the support that one actually receives, is used in this study. Social support has been identified as one of the most beneficial, and frequently used, coping strategies (Iliffe

& Steed, 2000; Pearlman & Mac Ian, 1995). According to Moos and Schaefer (1993), individuals who engage in coping strategies achieve better outcomes following exposure to trauma.

Following exposure to trauma, social support aids one's ability to cope by enhancing social resources through relationships with others, and by enhancing personal resources such as character strengths. In addition, social support aids the development of better coping skills (Schaefer & Moos, 1992). Taking the latter into consideration, it seems reasonable to assume that low levels of social support should be associated with increased difficulties in coping with vicarious exposure to trauma. In a meta-analysis of the predictors of PTSD in adults, Ozer and colleagues (2003) found lower perceived social support following a traumatic event to be related to higher levels of PTSD symptoms or rates of PTSD. In trauma workers, higher perceived social support was found to reduce the risk of STS (Mac Ritchie & Leibowitz, 2010). In another study, the perception of emotional and instrumental support following exposure to trauma was related to lower levels of STS amongst lay trauma counsellors (Ortlepp & Friedman, 2002). Using the Multidimensional Scale of Perceived Social Support (MSPSS) in a sample of hospital social workers in a trauma centre, Badger and colleagues (2008) found perceived social support to correlate negatively with STS. Furthermore, perceived social support from friends and from family has been found to be negatively associated with STS in forensic interviewers (Bonach & Heckert, 2012) and medical doctors, nurses, psychologists, counsellors, and social workers (Manning-Jones, de Terte & Stephens, 2016). Law enforcement officers who utilised the social support of their partner (i.e., significant other) were also less likely to suffer from psychological distress (Davidson & Moss, 2008). It appears that social support not only reduces the negative psychological consequences following exposure to trauma, but also enhances the positive psychological consequences, having been linked to higher positive changes such as PTG (Cieslak et al., 2008; Luszczynska, Sarkar, & Knoll 2007).

Although few studies have assessed the relationship between social support and PTG amongst professionals who work with traumatised

individuals (Ben-Porat, 2015), Cohen and Collens (2013), in their meta-analysis of trauma workers, found that family and social ties became more valued following exposure to trauma. Social support has also been linked to the development of VPTG in those who work with traumatised individuals (Brockhouse, Msetfi, Cohen & Joseph, 2011; Linley & Joseph, 2005, 2007; Satkunanayagam, Tunariu & Tribe, 2010; Tehrani, 2010). More specifically, perceived social support has been found to positively correlate with VPTG in a range of health professionals, including psychologists (Manning-Jones et al., 2016). These findings are consistent with PTG models, which suggest that social support is positively associated with coping following exposure to trauma (Schaefer & Moos, 1998; Tedeschi & Calhoun, 2004). Based on this research, it was hypothesised that:

**Hypothesis 13:** Perceived social support will be negatively correlated with secondary traumatic stress.

**Hypothesis 14:** Perceived social support will be positively correlated with vicarious posttraumatic growth.

According to the literature, self-efficacy may maintain and cultivate social support, which may indirectly affect health-related outcomes (cultivation hypothesis; Schwarzer & Knoll, 2007). The cultivation hypothesis proposes that individuals “take the initiative, they go out and make social contacts, they take action to maintain valuable social relationships, and they invest effort to improve, extend, and cultivate their networks” (Schwarzer & Knoll, 2007, p.246). It appears that the higher an individual’s level of self-efficacy is, the better their social resources are, and vice versa. Research has shown stronger self-efficacy to lead to greater success in forming supportive relationships (Benight & Bandura, 2004). Likewise, levels of STSE have been found to correlate positively with levels of social support (Cieslak et al., 2013). Studies supporting the cultivation hypothesis have found social support to mediate the relationship between self-efficacy and depressive symptoms (Schwarzer & Gutierrez-Dona, 2005; Schwarzer & Knoll, 2007). The cultivation hypothesis has also been supported in a sample of service providers, including clinical psychologists, working with military personnel, and in a



sample of service providers working with traumatised civilians (Shoji et al., 2014). These findings suggest that enhancing self-efficacy may facilitate social support. From this research, the following hypotheses were predicted:

**Hypothesis 15:** Perceived social support will act as a mediator between secondary trauma self-efficacy and secondary traumatic stress.

**Hypothesis 16:** Perceived social support will act as a mediator between secondary trauma self-efficacy and vicarious posttraumatic growth.

The relationship between self-efficacy and social support is argued to be bi-directional and as such, social support may enable self-efficacy (enabling hypothesis; Schwarzer & Knoll, 2007). The enabling hypothesis proposes that “support providers may facilitate an individual’s self-regulation by enabling one’s adaptive capabilities to face challenges and to overcome adversity” (Schwarzer & Knoll, 2007, p.245). Social support may therefore, provide one with the opportunity to engage in experiences to cope with the stressor (i.e., vicarious exposure to trauma). Individuals in one’s social network may also provide reassurances regarding their competency to cope with trauma-related demands. Furthermore, social support may reduce stress-related arousal, in turn facilitating self-efficacy (Schwarzer & Knoll, 2007). In a study by Benight and colleagues (1999), self-efficacy mediated the relationship between perceived social support and distress in individuals who had experienced a traumatic event. Self-efficacy has also been found to mediate the relationship between social support and PTG (Cieslak et al., 2009; Luszczynska et al., 2007). Based on this research, it was hypothesised that:

**Hypothesis 17:** Secondary trauma self-efficacy will act as a mediator between perceived social support and secondary traumatic stress.

**Hypothesis 18:** Secondary trauma self-efficacy will act as a mediator between perceived social support and vicarious posttraumatic growth.

**Self-care.** Self-care is also considered to be a coping strategy that may lead to better outcomes following exposure to trauma. Although the literature has focused on several different aspects of self-care, this study focuses on the frequency of engagement in self-care activities. The reason individuals engage in self-care activities is to alleviate stress and maintain balance between their personal and professional lives (Manning-Jones et al., 2016). An inability to maintain such balance may negatively impact one's wellbeing (Steed & Downing, 1998). Examples of self-care activities that have been used by trauma workers include exercising, eating healthy, resting and meditating, psychotherapy, and engaging in pleasurable activities such as socialising with others, watching films, going out, or taking holidays (Elwood et al., 2011). Engaging in such activities has been found to help those who are vicariously exposed to trauma to cope with, and regulate, their experience (Cohen & Collens, 2013; Splevins et al. 2010). Not only has self-care been identified as a factor that may protect against STS (Craig & Sprang, 2010; Hensel et al., 2015; Lambert & Lawson, 2013; Rothschild, 2006), but it has also been identified as a factor that may facilitate VPTG (Arnold et al., 2005; Barrington & Shakespeare-Finch, 2013; Satkunanayagam et al., 2010; Splevins et al., 2010; Tehrani, 2010). In a range of health professionals, of which included psychologists, self-care simultaneously predicted lower STS and higher VPTG (Manning-Jones et al., 2016). From this research, the following hypotheses were predicted:

**Hypothesis 19:** Self-care will be negatively correlated with secondary traumatic stress.

**Hypothesis 20:** Self-care will be positively correlated with vicarious posttraumatic growth.

### **Summary of Hypotheses**

**Hypothesis 1:** Years working as a clinical psychologist will be negatively correlated with secondary traumatic stress.

**Hypothesis 2:** Hours per week working with traumatised clients will be positively correlated with secondary traumatic stress.

**Hypothesis 3:** Percentage of traumatised clients on caseload will be positively correlated with secondary traumatic stress.

**Hypothesis 4:** Years working as a clinical psychologist will be positively correlated with vicarious posttraumatic growth.

**Hypothesis 5:** Hours per week working with traumatised clients will be positively correlated with vicarious posttraumatic growth.

**Hypothesis 6:** Percentage of traumatised clients on caseload will be positively correlated with vicarious posttraumatic growth.

**Hypothesis 7:** Posttraumatic cognitions will be positively correlated with secondary traumatic stress.

**Hypothesis 8:** Posttraumatic cognitions will be negatively correlated with vicarious posttraumatic growth.

**Hypothesis 9:** Secondary trauma self-efficacy will be negatively correlated with secondary traumatic stress.

**Hypothesis 10:** Secondary trauma self-efficacy will be positively correlated with vicarious posttraumatic growth.

**Hypothesis 11:** Secondary trauma self-efficacy will act as a mediator between posttraumatic cognitions and secondary traumatic stress.

**Hypothesis 12:** Secondary trauma self-efficacy will act as a mediator between posttraumatic cognitions and vicarious posttraumatic growth.

**Hypothesis 13:** Perceived social support will be negatively correlated with secondary traumatic stress.

**Hypothesis 14:** Perceived social support will be positively correlated with vicarious posttraumatic growth.

**Hypothesis 15:** Perceived social support will act as a mediator between secondary trauma self-efficacy and secondary traumatic stress.

**Hypothesis 16:** Perceived social support will act as a mediator between secondary trauma self-efficacy and vicarious posttraumatic growth.

**Hypothesis 17:** Secondary trauma self-efficacy will act as a mediator between perceived social support and secondary traumatic stress.

**Hypothesis 18:** Secondary trauma self-efficacy will act as a mediator between perceived social support and vicarious posttraumatic growth.

**Hypothesis 19:** Self-care will be negatively correlated with secondary traumatic stress.

**Hypothesis 20:** Self-care will be positively correlated with vicarious posttraumatic growth.

## **Chapter Two: Method**

### **Participants**

Participants in this study were clinical psychologists affiliated to the New Zealand College of Clinical Psychologists (NZCCP) and/or the New Zealand Psychological Society (NZPsS). In order to be eligible to participate, clinical psychologists were required to be working in New Zealand with traumatised clients. Traumatized clients were defined as clients who have had an emotional response to a terrible event and who typically experience shock and denial after the traumatic event, as well as other reactions such as unpredictable emotions, flashbacks, strained relationships, and physical symptoms. In total, 85 clinical psychologists participated in this study and completed the online survey. However, 13 surveys were found to have a large amount of incomplete responses and were subsequently removed from the data set. Thus, 72 responses were retained for further analysis. The response rate was unable to be determined as the number of clinical psychologists affiliated to the NZCCP or the NZPsS who work with traumatised clients is unknown. The demographic variables of the 72 participants who completed the survey are shown in Table 1 (p.21).

### **Procedure**

The School of Psychology Research and Ethics Committee at the University of Waikato approved this study. To recruit participants, a message was sent to the NZCCP and the NZPsS via a general email address. This message briefly explained the nature of the study before asking permission to include affiliated members. The executive director of the NZCCP and the NZPsS then contacted the researcher via email. After the executive director of the NZCCP and the NZPsS gave permission to conduct the research, a further email (see Appendix A) containing the URL link to the survey, was then sent to clinical psychologists affiliated to the NZCCP and NZPsS using the corresponding organisation's internal emailing system. This email also contained information about the purpose and goals of the research as well as the content included in the survey and an approximate completion time. Clinical psychologists were also

made aware in this email that participation was voluntary, that completion of the survey implied consent, and that they had the right to withdraw at any time prior to the submission of responses. Clinical psychologists were not offered an incentive for completing the survey. After completion of the survey, participants responses were exported from *Qualtrics* into the *Statistical Package for the Social Sciences (SPSS; version 23)* for data analysis.

## **Measures**

An online survey was created using the research software *Qualtrics*, to collect the data for this study. In total, 163 items were included in the survey. Thirteen items were used to gather data on demographics and 150 items, from previously developed measures, were used to gather data on secondary traumatic stress (STS), posttraumatic cognitions, vicarious posttraumatic growth (VPTG), secondary trauma self-efficacy (STSE), perceived social support, and self-care (see Appendix B). The exploratory factor analysis (EFA) and reliability analysis conducted for each measure are reported in Chapter Three.

**Demographics.** Demographic variables were measured in order to describe the participating sample. Included were age, gender, ethnicity, work setting, years working as a clinical psychologist, primary therapeutic practice orientation, hours per week working as a clinical psychologist, hours per week working with traumatised clients, percentage of traumatised clients on caseload, type of traumatised clients worked with, traumatic event(s) exposed to at work, traumatic event(s) personally experienced, and the degree to which traumatic event(s) personally experienced, if any, had been resolved.

Table 1

*Demographics (N = 72)*

	N	Percent
<b>Gender</b>		
Male	9	12.50
Female	63	87.50
<b>Ethnicity</b>		
Maori	5	6.94
European	60	83.33
Other	7	9.72
<b>Work Setting</b>		
Public	23	31.94
Private	32	44.44
Both	17	23.61
<b>Primary Therapeutic Practice Orientation</b>		
Acceptance and commitment therapy	10	13.89
Cognitive behavioural therapy	28	38.89
Dialectical behavioural therapy	3	4.17
Eclectic	5	6.94
Eye movement desensitising and reprocessing	2	2.78
Existential	1	1.39
Psychodynamic	1	1.39
Other	22	30.56
<b>Type of Traumatized Clients Worked With</b>		
Children/Adolescents	4	5.56
Adults	43	59.72
Both	25	34.72
<b>Exposure to Traumatic Event at Work</b>		
Natural disaster	31	44.29
Fire or explosion	10	15.15
Transportation accident	44	61.97
Serious accident	32	45.71
Exposure to toxic substance	6	9.52
Physical assault	68	94.44
Assault with a weapon	46	67.65
Sexual assault	71	98.61
Other unwanted or uncomfortable sexual experience	69	95.83
Combat or exposure to war zone	18	27.27
Captivity	25	37.31
Life-threatening illness or injury	45	66.18
Severe human suffering	48	73.85
Sudden violent death	48	70.59
Sudden accidental death	40	59.70
Other very stressful event or experience	54	80.60
<b>Personal Experience of Traumatic Event</b>		
Natural disaster	23	31.94
Fire or explosion	2	3.03
Transportation accident	24	34.29
Serious accident	10	15.15
Exposure to toxic substance	2	3.03
Physical assault	15	22.39

Table 1 continued

Assault with a weapon	5	7.35		
Sexual assault	10	15.15		
Other unwanted or uncomfortable sexual experience	42	61.76		
Combat or exposure to war zone	2	3.03		
Captivity	1	1.52		
Life-threatening illness or injury	15	22.39		
Severe human suffering	12	18.18		
Sudden violent death	13	19.40		
Sudden accidental death	17	25.37		
Other very stressful event or experience	36	54.55		
<b>Resolution of Personal Experience of Traumatic Event</b>				
Unresolved	6	8.33		
Resolved	59	81.94		
	<i>N</i>	<i>Range</i>	<i>Mean</i>	<i>SD</i>
Age	72	26-67	45.86	10.44
Years working as a clinical psychologist	72	1-37	15.23	8.87
Hours per week working as a clinical psychologist	72	2-53	33.92	9.54
Hours per week working with traumatised clients	70	2-50	15.70	10.35
Percentage of traumatised clients on caseload	69	10-100	59.06	28.39

**Secondary traumatic stress.** STS was measured using the Secondary Traumatic Stress Scale (STSS) developed by Bride, Robinson, Yegidis, and Figley (2004). This 17-item scale was designed to measure symptoms of intrusion, avoidance, and arousal in individuals indirectly exposed to their clients' traumatic experiences. EFA results in Chapter Three suggested measuring STS as a single variable (see p.28). The instruction was slightly altered so that participants rated the frequency to which they experienced each of the scale items in the past two weeks, as opposed to the past seven days. The altered instruction was used in order to give a more realistic and comprehensive indication of the frequency in which STS symptoms were experienced. An example of an item on this scale is "I had disturbing dreams about my work with clients". Participants used a five-point scale ranging from "never" (1) to "very often" (5) to respond to the items. The average response of the items was used to score this scale and thus scores ranged from 1 to 5. The STSS has shown good internal consistency ( $\alpha=.93$ ; Bride et al., 2004). The Cronbach's alpha for the STSS in this study was .85.

**Posttraumatic cognitions.** Posttraumatic cognitions were measured using the Posttraumatic Cognitions Inventory (PTCI) developed



by Foa, Ehlers, Clark, Tolin, and Orsillo (1999). This scale was designed to measure negative thoughts and beliefs relating to trauma. Two of the three original subscales were used: negative cognitions about self and negative cognitions about the world. The third subscale, self-blame, was not used due to ongoing discussion regarding its reliability and validity (Startup, Makgekgenene & Webster, 2007). However, EFA results in Chapter Three suggested five variables: lack of trust in self and others, negative beliefs about coping ability, lack of sense of security, self-doubt, and lack of emotional control (see p.29). Thus, these five variables replaced the two original subscales measuring posttraumatic cognitions. The instruction was slightly altered so that participants rated their level of agreement with each of the scale items after being vicariously exposed to the traumatic experiences of their clients at work. An example of an item on this scale is "People can't be trusted". Participants used a seven-point scale ranging from "totally disagree" (1) to "totally agree" (7) to respond to the items. The average response of the items was used to score this scale and thus scores ranged from 1 to 7. The PTCI has shown good internal consistency ( $\alpha=.97$ ), as have the negative cognitions about self ( $\alpha=.97$ ) and negative cognitions about the world ( $\alpha=.88$ ) subscales (Foa et al., 1999). The Cronbach's alphas for the five variables measuring posttraumatic cognitions in this study were .90 for lack of trust in self and others, .93 for negative beliefs about coping ability, .82 for lack of sense of security, .69 for self-doubt, and .73 for lack of emotional control.

**Vicarious posttraumatic growth.** VPTG was measured using the Posttraumatic Growth Inventory (PTGI) developed by Tedeschi and Calhoun (1996). This scale was designed to measure the outcomes described by individuals who have experienced a traumatic event. However, the PTGI has been used several times in previous research to measure VPTG (e.g., Manning-Jones, de Terte & Stephens, 2016). This 21-item scale measures five dimensions of growth: relating to others, new possibilities, personal strength, spiritual change, and appreciation of life. However, EFA results in Chapter Three suggested measuring VPTG as a single variable (see p.31). The instruction was slightly altered so that participants rated the degree to which they experienced each of the scale

items after being vicariously exposed to the traumatic experiences of their clients at work, as opposed to their own experience of crisis. An example of an item on this scale is “I know better that I can handle difficulties”. Participants used a six-point scale ranging from “I did not experience this change” (0) to “I experienced this change to a very great degree” (5) to respond to the items. The average response of the items was used to score this scale and thus scores ranged from 0 to 5. The PTGI has shown good internal consistency ( $\alpha=.90$ ; Tedeschi & Calhoun, 1996). The Cronbach’s alpha for the PTGI in this study was .96.

**Secondary trauma self-efficacy.** STSE was measured using the Secondary Trauma Self-Efficacy Scale (STSE Scale) developed by Cieslak, Shoji, Luszczynska, Taylor, Rogala, and Benight (2013). This 7-item scale was designed to measure beliefs about the ability to cope with the barriers associated with an indirect exposure to traumatic experiences at work. EFA reported in chapter three suggested measuring STSE as a single variable (see p.31). An example of an item on this scale is “How capable am I to control recurring distressing thought or images about these people”. Participants used a seven-point scale ranging from “very incapable” (1) to “very capable” (7) to respond to the items. The average response of the items was used to score this scale and thus scores ranged from 1 to 7. The STSE Scale has shown good internal consistency ( $\alpha=.87$ ; Cieslak et al., 2013). The Cronbach’s alpha for the STSE scale in this study was .62.

**Perceived social support.** Perceived social support was measured using the Multidimensional Scale of Perceived Social Support (MSPSS) developed by Zimet, Dahlem, Zimet, and Farley (1988). This 12-item scale was designed to measure perceptions of social support from three different sources: significant others, friends, and family. EFA reported in Chapter Three confirmed three variables (see p.31) and thus each subscale was considered as a separate variable. The instruction was slightly altered so that participants rated their level of agreement with each of the scale items after being vicariously exposed to the traumatic experiences of their clients at work. An example of an item from this scale is “I get the emotional help and support I need from my family”.

Participants used a seven-point scale ranging from “very strongly disagree” (1) to “very strongly agree” (7) to respond to the items. The average response of the items was used to score this scale and thus scores ranged from 1 to 7. The MSPSS has shown good internal consistency ( $\alpha=.88$ ), as have the perceived social support from significant others ( $\alpha=.91$ ), friends ( $\alpha=.85$ ), and family ( $\alpha=.87$ ) subscales (Zimet et al., 1988). The Cronbach’s alphas for each of the three subscales in this study were .95 for perceived social support from significant others, .91 for perceived social support from family, and .91 for perceived social support from friends.

**Self-care.** Self-care was measured using the Self-Care Assessment Worksheet (SCAW) developed by Saakvitne and Pearlman (1996). This scale was designed to measure the frequency of engagement in self-care activities and strategies. This 65-item scale measures six dimensions of self-care: physical, psychological, emotional, spiritual, workplace or professional, and balance. EFA was not conducted for the SCAW however; self-care was measured as a single variable. An example of an item on this scale is “Take time off when needed”. The rating scale was altered to include more definitive options. Participants used a five-point scale ranging from “never” (1) to “very often” (5) to respond to the items, as opposed to using a scale ranging from “it never occurred to me” to “frequently”. The average response of the items was used to score this scale and thus scores ranged from 1 to 5. Internal consistency has not been established for the SCAW as this scale measures engagement in discrete self-care behaviours. The Cronbach’s alpha for self-care in this study was .94.

## **Data Analysis**

**Factor analysis.** EFA was conducted in order to identify the factor structure (Tabachnick & Fidell, 2001) of five of the measures used in this study. To determine whether it was appropriate to continue with the factor analysis, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett’s test of sphericity were analysed. Factor analysis was considered appropriate if the KMO value was greater than .5 (Kaiser & Rice, 1974) and if Bartlett’s test of sphericity was significant. Factors with

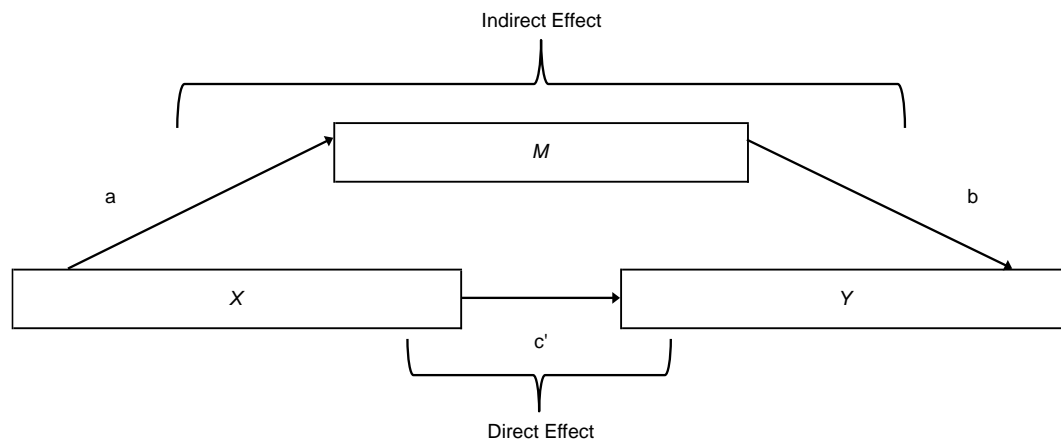
an eigenvalue greater than 1 were retained. In order to determine the factor loadings on items within each measure, the pattern matrix was analysed. Factor loadings greater than .4 were considered to be significant (Field, 2013). Principal axis factoring, with oblique (direct oblmin) rotation, was used where necessary. The scree plots, the percentage of variance, and the factor correlations were also analysed. The results of the EFA are reported in Chapter Three.

**Descriptive statistics.** Descriptive statistics, including the mean, standard deviation, skew and kurtosis, and internal consistency were determined for each of the variables used in this study. Variables with a skew value between -3 and +3 and a kurtosis value between -8 and +8 were considered acceptable (Kline, 2011). Variables with a skew and/or kurtosis value outside of the acceptable range were considered to be severely skewed and/or to have severe kurtosis, and underwent reciprocal transformations in order to correct for normality. Variables with a Cronbach's alpha greater than .7 were considered reliable (Field, 2013).

**Correlation analysis.** Pearson's product-moment correlations were conducted in order to determine the relationship between key variables (years working as a clinical psychologist, hours per week working with traumatised clients, percentage of traumatised clients on caseload, posttraumatic cognitions, STSE, perceived social support, and self-care) and STS, and key variables and VPTG. Correlations with a p-value below .05 were considered significant.

**Mediation analysis.** It was proposed that mediation analysis be conducted using the *PROCESS* macro for *SPSS* (Preacher & Hayes, 2004), and assessed by determining the indirect effect (Field, 2013). It was also proposed that the bias-corrected bootstrap confidence interval, based on 5000 samples at a 95% interval, be analysed in order to determine the size of the indirect effect. The indirect effect is the effect of *X* on *Y* through *M* (i.e., from *X* to *M*, and then to *Y*), where *X* is the predictor variable, *M* is the mediator variable, and *Y* is the criterion variable (Hayes, 2013; see Figure 2 below). However, correlations between all of the variables (see Table 5, p.36) showed that either the *X* to

$M$  relationship or the  $M$  to  $Y$  relationship was not significant. Thus, mediation analysis was not conducted.



*Figure 2.* Simple mediation model.

The subsequent chapter reports the results obtained from the data analysis.

## Chapter Three: Results

This chapter reports the results of this study, including the factor analysis, descriptive statistics, data transformations, and correlation and mediation analyses. Supplementary findings are also reported.

### Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) was conducted on five of the measures used in this study: the Secondary Traumatic Stress Scale (STSS), the Posttraumatic Cognitions Inventory (PTCI), the Posttraumatic Growth Inventory (PTGI), the Secondary Trauma Self-Efficacy Scale (STSE Scale), and the Multidimensional Scale of Perceived Social Support (MSPSS). As explained in Chapter Two, EFA was not conducted on the Self-Care Assessment Worksheet (SCAW). For the other five measures, principal axis factoring, with oblique (direct oblimin) rotation, was used in order to determine the arrangement of factors loading onto each item. Factor loadings were considered significant at greater than .4 (Field, 2013).

**Secondary traumatic stress.** Principal axis factoring was conducted on the 17 items in the STSS. The Kaiser-Meyer-Olkin (KMO) value was .76, which is considered by Hutcheson and Sofroniou (1999) to be 'middling'. Bartlett's test of sphericity was significant and thus it was appropriate to continue with the factor analysis. Five factors had an eigenvalue greater than one (5.40, 1.55, 1.46, 1.16, and 1.11), together explaining 62.78% of the total variance. Observation of the scree plot (Appendix C, Figure 3), however, indicated that only one factor loaded significantly onto the items. Hence, one factor was retained for the final analysis. According to the pattern matrix, the retained factor did not load significantly onto one of the items ("I had disturbing dreams about my work with clients"), and thus this item was excluded from further analysis. The retained factor loaded significantly onto the remaining 16 items, meeting the cut-off value of .4. Thus, rotation was not required.

**Posttraumatic cognitions.** Principal axis factoring was conducted on the 28 items, from two of the three original subscales in the PTCI: negative cognitions about self and negative cognitions about the

world. The KMO value was .84, which is considered by Hutcheson and Sofroniou (1999) to be 'meritorious'. Bartlett's test of sphericity was significant and thus it was appropriate to continue with the factor analysis. Six factors had an eigenvalue greater than one (13.02, 2.39, 2.03, 1.87, 1.49, and 1.06), together explaining 78.06% of the total variance. Observation of the scree plot (Appendix C, Figure 4), however, indicated that five factors loaded significantly onto the items. Hence, five factors were retained for the final analysis. According to the pattern matrix, three of the factors had cross-loadings. Factor 1 and Factor 2 cross-loaded onto three items ("I will never be able to feel normal emotions again", "I feel like an object, not like a person", and "Nothing good can happen to me anymore"), Factor 1 and Factor 3 cross-loaded onto two items ("I can't rely on other people" and "I feel isolated and set apart from others"), and Factor 2 and Factor 3 cross-loaded onto one item ("There is something wrong with me as a person"). These six items were excluded from further analysis, reducing the scale to 22 items.

The principal factor analysis was re-run with five fixed factors using oblique (direct oblimin) rotation. Factor 1 and Factor 2 cross-loaded onto another item ("I have permanently changed for the worse"), and thus this item was also excluded from further analysis and the principal factor analysis was conducted again. The five retained factors all loaded significantly onto the items. The factor loadings after rotation are shown in Table 2 (p.30). The correlations between the five factors ranged from .11 to -.46, giving further reason to retain five factors as separate variables. Examination of the factors that loaded onto each item suggested that Factor 1 represents 'lack of trust in self and others', Factor 2 represents 'negative beliefs about coping ability', Factor 3 represents 'lack of sense of security', Factor 4 represents 'self-doubt', and Factor 5 represents 'lack of emotional control'. Lack of trust in self and others comprised six items, negative beliefs about coping ability comprised three items, lack of sense of security comprised five items, self-doubt comprised four items, and lack of emotional control comprised three items.

Table 2

*Posttraumatic cognitions pattern matrix*

Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
I can't trust that I will do the right thing				.50	
I am a weak person				.69	
I will not be able to control my anger and will do something terrible					-.61
I can't deal with even the slightest upset					-.84
I used to be a happy person but now I am always miserable	.59				
People can't be trusted	.57				
I have to be on guard all the time	.78				
I feel dead inside					-.56
You can never know who will harm you			.50		
I have to be especially careful because you never know what can happen next			.41		
I am inadequate				.54	
If I think about the event, I will not be able to handle it		.77			
My reactions since the event mean that I am going crazy		.84			
The world is a dangerous place			.64		
I have no future		.90			
I can't stop bad things from happening to me			.65		
People are not what they seem			.77		
My life has been destroyed by the trauma	.73				
My reactions since the event show that I am a lousy copier				.45	
I feel like I don't know myself anymore	.92				
I can't rely on myself	.86				

Extraction method: Principal axis factoring.

Rotation method: Direct oblimin with Kaiser normalisation.

**Vicarious posttraumatic growth.** Principal axis factoring was conducted on the 21 items in the PTGI. The KMO value was .90, which is considered by Huthcheson and Sofroniou (1999) to be 'marvellous'. Bartlett's test of sphericity was significant and thus it was appropriate to continue with the factor analysis. Three factors had an eigenvalue greater



than one (12.00, 1.31, and 1.06), together explaining 68.41% of the total variance. Observation of the scree plot (Appendix C, Figure 5), however, indicated that only one factor loaded significantly onto the items. Hence, one factor was retained for the final analysis. According to the pattern matrix, the retained factor did not load significantly onto one of the items ("I have a stronger religious faith"), and thus this item was excluded from further analysis. The retained factor loaded significantly onto the remaining 20 items, meeting the cut-off value of .4. Thus, rotation was not required.

**Secondary trauma self-efficacy.** Principal axis factoring was conducted on the seven items in the STSE Scale. The KMO value was .62, which is considered by Hutcheson and Sofroniou (1999) to be 'mediocre'. Bartlett's test of sphericity was significant and thus it was appropriate to continue with the factor analysis. Two factors had an eigenvalue greater than one (2.16 and 1.24), together explaining 48.95% of the total variance. Observation of the scree plot (Appendix C, Figure 6), however, indicated that only one factor loaded significantly onto the items. Hence, one factor was retained for the final analysis. According to the pattern matrix, the retained factor did not load significantly onto four of the items ("Find some meaning in what had happened to these people", "Deal with thoughts that similar things may happen to me", "Cope with thoughts that I can't handle working with these people anymore", and "Get help from others to better handle working with these people"), and thus these four items were excluded from further analysis. The retained factor loaded significantly onto the remaining three items, meeting the cut-off value of .4. Thus, rotation was not required.

**Perceived social support.** Principal axis factoring was conducted on the 12 items in the MSPSS. This scale comprised three subscales: perceived social support from significant others, perceived social support from friends, and perceived social support from family. The KMO value was .85, which is considered by Hutcheson and Sofroniou (1999) to be 'meritorious'. Bartlett's test of sphericity was significant and thus it was appropriate to continue with the factor analysis. Three factors had an eigenvalue greater than one (6.83, 2.00, and 1.21), together explaining 83.68% of the total variance. This was consistent with the observation of

the scree plot (Appendix C, Figure 7). Hence, three factors were retained for the final analysis. The principal factor analysis was re-run with three fixed factors using oblique (direct oblimin) rotation. According to the pattern matrix, the three factors all loaded significantly and correctly onto the 12 items. The factor loadings after rotation are shown in Table 3 (see below). The correlations between the three factors ranged from .40 to .61, giving further reason to retain three factors as separate variables. Examination of the factors that loaded onto each item suggested that Factor 1 represents 'perceived social support from significant others', Factor 2 represents 'perceived social support from friends', and Factor 3 represents 'perceived social support from family'. Perceived social support from significant others, perceived social support from friends, and perceived social support from family each comprised four items.

Table 3

<i>Perceived social support pattern matrix</i>				
Items	Factor 1	Factor 2	Factor 3	
There is a special person who is around when I am in need	.97			
There is a special person with whom I can share my joys and sorrows	.99			
My family really tries to help me			.90	
I get the emotional help and support I need from my family			.90	
I have a special person who is a real source of comfort to me	.77			
My friends really try to help me		.69		
I can count on my friends when things go wrong		.91		
I can talk about my problems with my family			.88	
I have friends with whom I can share my joys and sorrows		.88		
There is a special person in my life who cares about my feelings	.80			
My family is willing to help me make decisions			.57	
I can talk about my problems with my friends		.90		
Extraction method: Principal axis factoring.				
Rotation method: Direct oblimin with Kaiser normalisation.				

## **Descriptive Statistics**

The descriptive statistics of the variables in this study are shown in Table 4 (p.34). Included is the mean, standard deviation, skew and kurtosis, and internal reliability. On average, participants reported relatively low levels of secondary traumatic stress (STS; 1.80), lack of trust in self and others (1.46), negative beliefs about coping ability (1.17), lack of sense of security (2.27), self-doubt (1.74), and lack of emotional control (1.24). On average, participants reported moderate levels of vicarious posttraumatic growth (VPTG; 2.90), and engagement in self-care activities (3.47). Participants reported high levels of secondary trauma self-efficacy (STSE; 6.14) and perceived social support from significant others (6.24), perceived social support from friends (5.84), and perceived social support from family (5.73). Cronbach's alphas were analysed in order to determine the internal reliability of the included variables. With the exception of self-doubt and STSE, all variables obtained relatively high reliabilities, ranging from .73 to .96. The Cronbach's alphas for self-doubt and STSE were .69 and .62 respectively. Both variables may have obtained a Cronbach's alpha less than .7 as several items were removed from the PTCI and the STSE Scale following EFA. After EFA was conducted, self-doubt comprised four items and the STSE Scale was reduced to three items from an original seven. Although the Cronbach's alpha for each of these variables was less than .7, which is considered acceptable (Field, 2013), they were retained for the final analysis.

The skew and kurtosis were analysed for each of the variables (see Appendix D). With the exception of lack of trust in self and others, negative beliefs about coping ability, and lack of emotional control, all variables obtained an acceptable skew value ranging between -3 and +3, and an acceptable kurtosis value ranging between -8 and +8 (Kline, 2011). Negative beliefs about coping ability and lack of emotional control were positively skewed (6.14 and 3.66 respectively). These two variables, as well as lack of trust in self and others, also had significant kurtosis (10.03, 42.53, and 17.38 respectively). Using the Shapiro-Wilk test, it was confirmed that these variables differed significantly from a normal distribution.

Table 4

*Descriptive statistics of variables*

Variables	Mean	SD	Skew	Kurtosis	Cronbach's Alpha
Secondary traumatic stress	1.80	.48	.98	1.40	.85
Lack of trust in self and others	1.46	.73	2.92	10.03	.90
Negative beliefs about coping ability	1.17	.61	6.14	42.53	.93
Lack of sense of security	2.27	1.10	1.10	.66	.82
Self-doubt	1.74	.79	1.40	1.57	.69
Lack of emotional control	1.24	.52	3.66	17.38	.73
Vicarious posttraumatic growth	2.90	1.18	.32	-.85	.96
Secondary trauma self-efficacy	6.14	.62	-.89	.87	.62
Perceived social support from significant others	6.24	1.24	-2.57	6.75	.95
Perceived social support from friends	5.84	.96	-.95	.68	.91
Perceived social support from family	5.73	1.22	-1.63	3.49	.91
Self-care	3.47	.45	.16	-.69	.94

Secondary traumatic stress: 1-5, Lack of trust in self and others: 1-7, Negative beliefs about coping ability: 1-7, Lack of sense of security: 1-7, Self-doubt: 1-7, Lack of emotional control: 1-7, Vicarious posttraumatic growth: 0-5, Secondary trauma self-efficacy: 1-7, Perceived social support from significant others: 1-7, Perceived social support from friends: 1-7, Perceived social support from family: 1-7, Self-care: 1-5.

## **Data Transformations**

Data transformations were conducted on the three variables (lack of trust in self and others, negative beliefs about coping ability, and lack of emotional control) with significant skew and/or kurtosis in order to obtain values that were more normally distributed. For distributions that differ significantly from normal, Tabachnick and Fidell (2001) recommend using a reciprocal (inverse) transformation. Reciprocal transformations were performed on lack of trust in self and others, negative beliefs about coping ability, and lack of emotional control. Using a reciprocal transformation improved the distributions of each of the three variables. The correlations between the variables prior to the transformation, and following the transformation, with all other variables were compared. The differences between the variables that were not transformed, and those that were, with all other variables, ranged from .01 to .10 and were not significant. As such, the non-transformed data were retained for the final analysis.

## **Correlation Analysis**

Pearson's product-moment correlations were conducted to assess the direction, and strength, of the relationships between variables. Table 5 (p.36) shows the Pearson product-moment correlations for all variables. According to Friedman (1982), a sample size of 72 gives a power of .80 at .05 level ( $r=.30$ ). This means that there was a 70% chance of a significant relationship being found between the variables in this study.

Hypothesis 1 proposed that years working as a clinical psychologist would be negatively associated with STS. However, years working as a clinical psychologist did not correlate significantly with STS ( $r=.02$ ), and thus hypothesis 1 was not supported. This indicates that years working as a clinical psychologist did not significantly relate to STS.

Hypothesis 2 proposed that hours per week working with traumatised clients would be positively correlated with STS. However, hours per week working with traumatised clients did not correlate significantly with STS ( $r=.10$ ), and thus hypothesis 2 was not supported. This suggests that hours per week working with traumatised clients did not significantly relate to STS.

Table 5

*Pearson's product-moment correlations for predictor, criterion, and mediator variables.*

Variables	YWCP	HWTC	PTCC	STS	LTSO	NBCA	LSS	SD	LEC	VPTG	STSE	PSSSO	PSSFri	PSSFam	SC
YWCP	-														
HWTC	.15	-													
PTCC	.07	.54**	-												
STS	.02	.10	.07	-											
LTSO	-.07	.24*	.03	.29*	-										
NBCA	.17	.01	.04	.53**	.52**	-									
LSS	.15	.19	.17	.17	.60**	.45**	-								
SD	-.07	.05	.06	.41**	.42**	.50**	.32**	-							
LEC	-.06	-.04	.11	.24*	.54**	.48**	.41**	.41**	-						
VPTG	-.26*	.20	.14	.08	.04	-.04	.00	-.12	-.04	-					
STSE	.18	.18	.26*	.04	-.22	-.00	-.04	-.30*	-.27*	.13	-				
PSSSO	-.22	-.14	-.16	.02	.05	.08	-.09	-.43**	-.14	.09	.14	-			
PSSFri	-.11	-.11	-.07	.11	-.30*	-.06	-.34**	-.31**	-.17	.07	.25*	.44**	-		
PSSFam	-.07	-.06	-.20	-.17	-.13	-.08	-.13	-.37**	-.29*	.08	.09	.64**	.50**	-	
SC	.07	.09	-.07	-.15	-.40**	-.19	-.19	-.45**	-.35**	.36**	.23	.23	.43**	.33**	-

Sample size = 72. \*p<.05, \*\*p<.01.

YWCP = Years working as a clinical psychologist, HWTC = Hours per week working with traumatised clients, PTCC = Percentage of traumatised clients on caseload, STS = Secondary traumatic stress, LTSO = Lack of trust in self and others, NBCA = Negative beliefs about coping ability, LSS = Lack of sense of security, SD = Self-doubt, LEC = Lack of emotional control, VPTG = Vicarious posttraumatic growth, STSE = Secondary trauma self-efficacy, PSSSO = Perceived social support from significant others, PSSFri = Perceived social support from friends, PSSFam = Perceived social support from family, SC = Self-Care.

Hypothesis 3 proposed that percentage of traumatised clients on caseload would be positively correlated with STS. However, percentage of traumatised clients on caseload did not correlate significantly with STS ( $r=.07$ ), and thus hypothesis 3 was not supported. This indicates that percentage of traumatised clients on caseload did not significantly relate to STS.

Hypothesis 4 proposed that years working as a clinical psychologist would be positively correlated with VPTG. Years working as a clinical psychologist correlated negatively with VPTG ( $r=-.26$ ,  $p<.05$ ), and thus hypothesis 4 was not supported. This suggests that as years working as a clinical psychologist increased, VPTG decreased.

Hypothesis 5 proposed that hours per week working with traumatised clients would be positively correlated with VPTG. However, hours per week working with traumatised clients did not correlate significantly with VPTG ( $r=.20$ ), and thus hypothesis 5 was not supported. This indicates that hours per week working with traumatised clients did not significantly relate to VPTG.

Hypothesis 6 proposed that percentage of traumatised clients on caseload would be positively correlated with VPTG. However, percentage of traumatised clients on caseload did not correlate significantly with VPTG ( $r=.14$ ), and thus hypothesis 6 was not supported. This suggests that percentage of traumatised clients on caseload did not significantly relate to VPTG.

Hypothesis 7 proposed that posttraumatic cognitions would be positively correlated with STS. Lack of trust in self and others ( $r=.29$ ,  $p<.05$ ), negative beliefs about coping ability ( $r=.53$ ,  $p<.01$ ), self-doubt ( $r=.41$ ,  $p<.01$ ), and lack of emotional control ( $r=.24$ ,  $p<.05$ ) correlated significantly with STS. However, lack of sense of security did not correlate significantly with STS ( $r=.17$ ). This indicates that as lack of trust in self and others, negative beliefs about coping ability, self-doubt, and lack of emotional control increased, so too did STS. This also indicates that lack of sense of security did not significantly relate to STS. Overall, hypothesis 7 was supported.

Hypothesis 8 proposed that posttraumatic cognitions would be negatively correlated with VPTG. However, lack of trust in self and others ( $r=.04$ ), negative beliefs about coping ability ( $r=-.04$ ), lack of sense of security ( $r=.00$ ), self-doubt ( $r=-.12$ ), and lack of emotional control ( $r=-.04$ ), did not correlate significantly with VPTG. Thus, hypothesis 8 was not supported. This suggests that lack of trust in self and others, negative beliefs about coping ability, lack of sense of security, self-doubt, and lack of emotional control did not significantly relate to VPTG.

Hypothesis 9 proposed that STSE would be negatively correlated with STS. However, STSE did not correlate significantly with STS ( $r=.04$ ), and thus hypothesis 9 was not supported. This indicates that STSE did not significantly relate to STS.

Hypothesis 10 proposed that STSE would be positively correlated with VPTG. However, STSE did not correlate significantly with VPTG ( $r=.13$ ), and thus hypothesis 10 was not supported. This suggests that STSE did not significantly relate to VPTG.

Hypothesis 13 proposed that perceived social support would be negatively correlated with STS. However, perceived social support from significant others ( $r=.02$ ), perceived social support from friends ( $r=.11$ ), and perceived social support from family ( $r=-.17$ ), did not correlate significantly with STS. Thus, hypothesis 13 was not supported. This indicates that perceived social support from significant others, perceived social support from friends, and perceived social support from family did not significantly relate to STS.

Hypothesis 14 proposed that perceived social support would be positively correlated with VPTG. However, perceived social support from significant others ( $r=.09$ ), perceived social support from friends ( $r=.07$ ), and perceived social support from family ( $r=.08$ ), did not correlate significantly with VPTG. Thus, hypothesis 14 was not supported. This suggests that perceived social support from significant others, perceived social support from friends, and perceived social support from family did not significantly relate to VPTG.



Hypothesis 19 proposed that self-care would be negatively correlated with STS. However, self-care did not correlate significantly with STS ( $r=-.15$ ), and thus hypothesis 19 was not supported. This indicates that self-care did not significantly relate to STS.

Hypothesis 20 proposed that self-care would be positively correlated with VPTG. Self-care correlated significantly with vicarious posttraumatic growth ( $r=.36$ ,  $p<.01$ ), and thus hypothesis 20 was supported. This suggests that as self-care increased, so too did VPTG.

### **Mediation Analysis**

In order to determine whether mediation analysis was appropriate, the  $X$  to  $M$  relationship was assessed. Where this relationship was significant, the  $M$  to  $Y$  relationship was then assessed. As explained in Chapter Two, however, no mediation analyses were conducted as the correlations between the variables (see Table 5, p.36) showed that either the  $X$  to  $M$  relationship or the  $M$  to  $Y$  relationship was not significant.

Hypothesis 11 proposed that STSE would mediate the relationship between posttraumatic cognitions and STS. More specifically, it was hypothesised that posttraumatic cognitions would be associated with reduced STSE, which would then be associated with increased STS. However, lack of trust in self and others ( $r=-.22$ ), negative beliefs about coping ability ( $r=-.00$ ), and lack of sense of security ( $r=-.04$ ) were not significantly related to STSE. Thus, the  $X$  to  $M$  relationship was not significant in these analyses. Although self-doubt ( $r=-.30$ ,  $p<.05$ ) and lack of emotional control ( $r=-.27$ ,  $p<.05$ ) were significantly related to STSE, STSE was not significantly related to STS ( $r=.04$ ). Thus, although the  $X$  to  $M$  relationship was significant, the  $M$  to  $Y$  relationship was not significant in these analyses. As either the  $X$  to  $M$  relationship or the  $M$  to  $Y$  relationship was not significant, hypothesis 11 was not supported.

Hypothesis 12 proposed that STSE would mediate the relationship between posttraumatic cognitions and VPTG. More specifically, it was hypothesised that posttraumatic cognitions would be associated with reduced STSE, which would then be associated with reduced VPTG. However, as stated above, lack of trust in self and others ( $r=-.22$ ), negative

beliefs about coping ability ( $r=-.00$ ), and lack of sense of security ( $r=-.04$ ) were not significantly related to STSE. Thus, the  $X$  to  $M$  relationship was not significant in these analyses. Although self-doubt ( $r=-.30$ ,  $p<.05$ ) and lack of emotional control ( $r=-.27$ ,  $p<.05$ ) were significantly related to STSE, STSE was not significantly related to vicarious posttraumatic growth ( $r=.13$ ). Thus, although the  $X$  to  $M$  relationship was significant, the  $M$  to  $Y$  relationship was not significant in these analyses. As either the  $X$  to  $M$  relationship or the  $M$  to  $Y$  relationship was not significant, hypothesis 12 was not supported.

Hypothesis 15 proposed that perceived social support would mediate the relationship between STSE and STS. More specifically, it was proposed that STSE would be associated with increased perceived social support, which would then be associated with reduced STS. However, STSE was not significantly related to perceived social support from significant others ( $r=.14$ ) or perceived social support from family ( $r=.09$ ). Thus, the  $X$  to  $M$  relationship was not significant in these analyses. Although STSE was significantly related to perceived social support from friends ( $r=.25$ ,  $p<.05$ ), perceived social support from friends was not significantly related to STS ( $r=.11$ ). Thus, although the  $X$  to  $M$  relationship was significant, the  $M$  to  $Y$  relationship was not significant in this analysis. As either the  $X$  to  $M$  relationship or the  $M$  to  $Y$  relationship was not significant, hypothesis 15 was not supported.

Hypothesis 16 proposed that perceived social support would mediate the relationship between STSE and VPTG. More specifically, it was hypothesised that STSE would be associated with increased perceived social support, which would then be associated with increased VPTG. However, as stated above, STSE was not significantly related to perceived social support from significant others ( $r=.14$ ) or perceived social support from family ( $r=.09$ ). Thus, the  $X$  to  $M$  relationship was not significant in these analyses. Although STSE was significantly related to perceived social support from friends ( $r=.25$ ,  $p<.05$ ), perceived social support from friends was not significantly related to VPTG ( $r=.07$ ). Thus, although the  $X$  to  $M$  relationship was significant, the  $M$  to  $Y$  relationship

was not significant in this analysis. As either the *X* to *M* relationship or the *M* to *Y* relationship was not significant, hypothesis 16 was not supported.

Hypothesis 17 proposed that STSE would mediate the relationship between perceived social support and STS. More specifically, it was hypothesised that perceived social support would be associated with increased STSE, which would then be associated with reduced STS. However, perceived social support from significant others ( $r=.14$ ) and perceived social support from family ( $r=.09$ ) were not significantly related to STSE. Thus, the *X* to *M* relationship was not significant in these analyses. Although perceived social support from friends was significantly related to STSE ( $r=.25$ ,  $p<.05$ ), STSE was not significantly related to STS ( $r=.04$ ). Thus, although the *X* to *M* relationship was significant, the *M* to *Y* relationship was not significant in this analysis. As either the *X* to *M* relationship or the *M* to *Y* relationship was not significant, hypothesis 17 was not supported.

Hypothesis 18 proposed that STSE would mediate the relationship between perceived social support and VPTG. More specifically, it was hypothesised that perceived social support would be associated with increased STSE, which would then be associated with increased VPTG. However, as stated above, perceived social support from significant others ( $r=.14$ ) and perceived social support from family ( $r=.09$ ) were not significantly related to STSE. Thus, the *X* to *M* relationship was not significant in these analyses. Although perceived social support from friends was significantly related to STSE ( $r=.25$ ,  $p<.05$ ), STSE was not significantly related to VPTG ( $r=.13$ ). Thus, although the *X* to *M* relationship was significant, the *M* to *Y* relationship was not significant in this analysis. As either the *X* to *M* relationship or the *M* to *Y* relationship was not significant, hypothesis 18 was not supported.

### **Supplementary Findings**

Significant non-hypothesised relationships are reported in this section, as they contribute to the discussion. These non-hypothesised relationships, along with those that were hypothesised, are shown in Table 5 (p.36).

Hours per week working with traumatised clients correlated significantly with lack of trust in self and others ( $r=.24$ ,  $p<.05$ ). As hours per week working with traumatised clients increased, so too did lack of trust in self and others. STSE correlated significantly with self-doubt ( $r=-.30$ ,  $p<.05$ ), and lack of emotional control ( $r=-.27$ ,  $p<.05$ ), and thus as STSE increased, self-doubt and lack of emotional control decreased.

Perceived social support from significant others correlated significantly with self-doubt ( $r=-.43$ ,  $p<.01$ ). As perceived social support from significant others increased, self-doubt decreased. Perceived social support from friends correlated significantly with lack of trust in self and others ( $r=-.30$ ,  $p<.05$ ), lack of sense of security ( $r=-.34$ ,  $p<.01$ ), and self-doubt ( $r=-.31$ ,  $p<.01$ ). As perceived social support from friends increased, lack of trust in self and others, lack of sense of security, and self-doubt decreased. Perceived social support from family correlated significantly with self-doubt ( $r=-.37$ ,  $p<.01$ ) and lack of emotional control ( $r=-.29$ ,  $p<.05$ ), and thus as perceived social support from family increased, self-doubt and lack of emotional control decreased.

Self-care correlated significantly with lack of trust in self and others ( $r=-.40$ ,  $p<.01$ ), self-doubt ( $r=-.45$ ,  $p<.01$ ), and lack of emotional control ( $r=-.35$ ,  $p<.01$ ). As self-care increased, lack of trust in self and others, self-doubt, and lack of emotional control decreased. Self-care also correlated significantly with perceived social support from friends ( $r=.43$ ,  $p<.01$ ) and perceived social support from family ( $r=.33$ ,  $p<.01$ ), and thus as self-care increased, so too did perceived social support from friends and perceived social support from family.

This chapter reported the results obtained from the data analysis. Even though the majority of the hypotheses were not supported, some interesting and significant relationships were found between the variables in this study. These results are discussed in the subsequent chapter. Also discussed are the strengths and limitations inherent in this study, and recommendations for future research.

## **Chapter Four: Discussion**

The present study sought to gain a better understanding of the negative and positive psychological consequences that clinical psychologists who are vicariously exposed to trauma may experience. The trauma literature highlights that clinicians who are vicariously exposed to trauma are at risk of experiencing secondary traumatic stress (STS; e.g., Elwood et al., 2011). However, the trauma literature also highlights that such clinicians can experience vicarious posttraumatic growth (VPTG; e.g., Arnold et al., 2005). Given that STS may negatively, and VPTG may positively, impact the ability of clinicians to practise effectively and safely, it is important that the factors that are related to these phenomena are identified.

This study examined the relationships between clinical psychologists' levels of vicarious exposure to trauma (years working as a clinical psychologist, hours per week working with traumatised clients, and percentage of traumatised clients on caseload), and STS and VPTG. Also examined in relation to STS and VPTG were clinical psychologists' posttraumatic cognitions, secondary trauma self-efficacy (STSE), perceptions of social support, and engagement in self-care activities. Clinical psychologists who participated in this study completed an online survey that assessed these factors.

Identifying the factors that are related to STS and VPTG in clinical psychologists will provide information regarding those clinical psychologists who are more likely to experience these phenomena. Identifying such factors will also provide information regarding the ways in which STS may be prevented and VPTG may be facilitated.

The results of the present study supported some of the proposed hypotheses. Non-hypothesised significant relationships were also found. This chapter discusses the main results of the present study in relation to previous research. The supplementary findings are also discussed, as are potential reasons for why the hypotheses were not well supported. Further discussed are the practical and theoretical implications of this study, as well as the strengths and limitations. Recommendations for future research are also provided, followed by a summary of the study.

## **Supported Research Findings**

Hypothesis 7 and hypothesis 20 were supported. These hypotheses are subsequently discussed in relation to previous research.

### **Posttraumatic cognitions and secondary traumatic stress.**

It was hypothesised that posttraumatic cognitions would be positively correlated with STS. This hypothesis was supported, and is in line with theoretical models (e.g., Ehlers & Clark, 2000; Foa & Rothbaum, 1998) that suggest that negative cognitions lead to the development, and maintenance, of Posttraumatic Stress Disorder (PTSD) and its associated symptoms. This finding is also in line with research by Barton et al., (2013), who found posttraumatic cognitions to correlate positively with PTSD symptoms in a sample of undergraduate psychology students. However, rather than assessing posttraumatic cognitions in individuals who had directly experienced a traumatic event, this study assessed posttraumatic cognitions in clinical psychologists who were vicariously exposed to trauma. Like individuals who have directly experienced a traumatic event, it appears that clinical psychologist's interpretations, or appraisal, of the trauma and its aftermath may play an important role in the development of PTSD symptoms. Monitoring clinicians' posttraumatic cognitions following treatment with traumatised clients would therefore be important to prioritise.

### **Self-care and vicarious posttraumatic growth.**

Self-care was found to positively correlate with VPTG. This finding aligns with previous research that found higher levels of engagement in self-care to be associated with higher levels of VPTG in a range of New Zealand health professionals, including psychologists (Manning-Jones et al., 2016). This finding also aligns with other research that has identified self-care as a factor that may facilitate VPTG (e.g., Arnold et al., 2005). It appears that clinical psychologists who engage in more self-care activities are better able to cope with trauma-related demands following vicarious exposure to trauma and find benefits in their work. In turn, this may facilitate VPTG. Clinical psychologists should therefore be encouraged to engage in self-care activities, both in and out of the workplace.

## **Unsupported Hypothesised Findings**

The majority of the proposed hypotheses were not supported. These were hypotheses 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 and 19. Potential reasons for why these hypotheses were not supported are subsequently discussed.

### **Direct hypothesised relationships.**

The direct hypothesised relationships that were not supported were hypotheses 1, 2, 3, 4, 5, 6, 8, 9, 10, 13, 14, and 19. Several potential reasons exist for why these hypotheses were not supported.

It is possible that the level of exposure to trauma (years working as a clinical psychologist, hours per week working with traumatised clients, and percentage of traumatised clients on caseload), STSE, perceived social support, and self-care did not correlate significantly with STS, and that the level of exposure to trauma (hours per week working with traumatised clients and percentage of traumatised clients on caseload), posttraumatic cognitions, STSE, and perceived social support did not correlate significantly with VPTG, due to the small sample size that was utilised in this study. As stated in Chapter Three, using a sample size of 72 participants gives a 70% chance of detecting a significant relationship between variables (Friedman, 1982). Taking this into consideration, it is possible that small to moderate effects were missed, which may have lead to the discrepant results that were found in the present study. Discrepant results may also have been found as the hypotheses in this study were formulated based on previous research that employed different types of clinicians or professionals working with traumatised individuals, and not solely clinical psychologists. Adding to the latter, discrepant results may have been found in relation to the factors that are related to STS and VPTG, as several different terms have been utilised in the literature to define the negative and positive psychological consequences resultant from vicarious exposure to trauma.

It is also possible that the factors outlined did not correlate significantly with STS due to a lack of variation in the levels of STS that were reported by participants. Clinical psychologists reported low levels of

STS. As previous research suggests that clinicians may experience moderate to high levels of STS symptoms (Bride, Jones & Mac Master, 2007; Hargrave, Scott & McDowall, 2006; Way et al., 2004), it is important to consider why low levels of STS were evident. A potential reason could include the influence of external factors that were not explored in this study, for example level of educational achievement and organisational support. Research suggests that more highly educated individuals (Galek et al., 2011), and those who receive organisational support (Salston & Figley 2003), may be less likely to experience STS. As clinical psychologists in New Zealand are required to engage in several years of university study, and placements, in order to register as a clinical psychologist, and as they are required to engage in regular supervision once they have registered and have started working, it is possible that these factors may have influenced STS more than the factors outlined. As found in a study conducted by Samios and colleagues (2012), it is also possible that those participants who experienced higher levels of VPTG were protected from experiencing STS symptoms. This may explain why low levels of STS, and moderate levels of VPTG, were found.

External factors, for example personal trauma history, may have also influenced VPTG more than the factors outlined. Research suggests that in comparison to individuals who have not experienced a traumatic event, individuals who have experienced a traumatic event may experience higher levels of posttraumatic growth (PTG; Tedeschi & Calhoun, 1996). In the present study, 90.27% of participants indicated that they had personally experienced a traumatic event. Thus, it is possible that the extent to which clinical psychologists' experienced PTG may have arisen from their own personal experience of trauma, rather than their exposure to clients' trauma. Furthermore, the levels of PTG experienced by clients may have played a role in the level of VPTG experienced by clinical psychologists, as research suggests that witnessing growth in others may aid personal growth (Manning-Jones et al., 2015).

Another potential reason for why the outlined factors were not found to correlate significantly with STS or VPTG could be due to the levels of vicarious exposure to trauma that were reported. On average,



clinical psychologists worked 33.92 hours per week. However, less than half of this time was spent working with traumatised clients. Furthermore, clinical psychologists' caseloads appeared to be relatively balanced with traumatised and non-traumatised clients. As vicarious exposure to trauma is necessary for both STS and VPTG to occur, the latter reasons may explain why high levels of both STS and VPTG were not evident. It could be argued that STSE did not correlate significantly with STS, as clinical psychologists, on average, experienced low levels of STS and were therefore not required to hold positive beliefs about their ability to cope with trauma-related demands or symptoms of STS. It could also be argued that clinical psychologists who experienced low levels of STS were not required to feel socially supported or engage in self-care activities to cope with trauma-related demands. Furthermore, it is possible that posttraumatic cognitions did not correlate significantly with VPTG, as clinical psychologists, on average, experienced moderate levels of VPTG; a phenomenon that is experienced once new schemas, or assumptions about the self, others, and the world, have been developed. A potential reason for why STSE was not found to correlate significantly with VPTG may be because the former is specific to beliefs about one's ability to deal with trauma-related demands and symptoms of STS (Cieslak et al., 2013), not dimensions of VPTG. Lastly, it is possible that clinical psychologists' experiencing moderate levels of VPTG were not required to feel socially supported, as they had already found benefits from their work with traumatised clients.

### **Mediated hypothesised relationships.**

All mediated hypothesised relationships were not supported. These were hypotheses 11, 12, 15, 16, 17, and 18. As explained in Chapter Two and Chapter Three, mediation analyses were not conducted as the correlations between the variables showed that either the *X* to *M* or the *M* to *Y* relationship was not significant.

### **Supplementary Findings**

As posttraumatic cognitions (i.e., lack of trust in self and others, lack of sense of security, self-doubt, and lack of emotional control) correlated

significantly with STS, and as self-care correlated significantly with VPTG, relationships between these two variables and the other variables included in this study were examined. The number of hours per week working with traumatised clients was found to correlate positively with lack of trust in self and others. This suggests that the more clinical psychologists are vicariously exposed to trauma, the more likely they are to develop certain posttraumatic cognitions. Working fewer hours per week with traumatised clients may therefore, be beneficial for clinical psychologists. STSE was also found to correlate significantly with posttraumatic cognitions; as STSE increased, self-doubt and lack of emotional control decreased. This finding is not surprising, considering that STSE includes the perceived ability to deal with STS symptoms (Cieslak et al., 2013), of which can now considered to include negative changes to cognitions (American Psychiatric Association, 2013). It is possible that clinical psychologists who believe that they are better able to deal with trauma-related demands are also less likely to experience negative cognitions and thus, STS. As such, fostering STSE in clinical psychologists following vicarious exposure to client trauma may be important.

Perceived social support from significant others, friends, and family also correlated significantly with posttraumatic cognitions. Whereas perceived social support from significant others correlated negatively with self-doubt, perceived social support from friends correlated negatively with lack of trust in self and others, lack of sense of security, and self-doubt. Furthermore, perceived social support from family correlated negatively with self-doubt and emotional control. Taken together, the latter findings suggest that as perceived social support increased, posttraumatic cognitions decreased. Ensuring that clinical psychologists feel supported by significant others, friends, and family is therefore essential. Additionally, as self-care increased, lack of trust in self and others, self-doubt, and lack of emotional control decreased. This indicates that engaging in self-care activities may help clinical psychologists to cope with the negative cognitions that may result from vicarious exposure to trauma. Moreover, self-care correlated positively with perceived social support from friends and from family, which provides further support for ensuring that clinical psychologists feel socially supported.

## **Practical Implications**

There are several practical implications to consider from the present study. Firstly, employers should ensure that clinical psychologists monitor their posttraumatic cognitions following treatment with traumatised clients. This would provide employers with an indication as to how clinicians are coping with being vicariously exposed to their clients' trauma, as well as their likelihood of experiencing STS. Encouraging clinical psychologists to periodically complete the Posttraumatic Cognitions Inventory (PTCI), or another measure assessing posttraumatic cognitions about the self and the world, would be useful.

To reduce the likelihood of clinical psychologists' experiencing posttraumatic cognitions, employers should ensure that they do not work too many hours per week with traumatised clients. Balancing the number of hours that clinical psychologists spend working with traumatised clients, with the number of hours that they spend working with non-traumatised clients, may therefore be important to consider. Employers should also consider fostering STSE, or beliefs about the ability to deal with trauma-related demands and symptoms of STS, in the workplace, as increased STSE was associated with decreased posttraumatic cognitions.

Outside of the workplace, clinical psychologists should seek to strengthen their relationships with significant others, friends, and family, so that they have a strong support network to discuss work-related difficulties with when needed. This is essential, as stronger perceptions of social support were associated with decreased posttraumatic cognitions and increased engagement in self-care activities. Social support and self-care are coping strategies that can be used by clinical psychologists to deal with the consequences resultant from vicarious exposure to trauma. Clinical psychologists who engaged in more self-care activities experienced fewer posttraumatic cognitions and higher levels of VPTG. Employers should therefore encourage clinical psychologists to engage in a variety of self-care activities and should promote the benefits of doing so.

To conclude, employers should be aware of the ways in which they can help clinical psychologists to experience lower levels of STS and higher levels of VPTG. In the present study, clinical psychologists experienced relatively low levels of STS and moderate levels of VPTG. In order to further reduce clinical psychologists' likelihood of experiencing STS, and to facilitate the experience of VPTG, employers should bear in mind that certain factors may affect clinical psychologists' likelihood of experiencing these phenomena. Taking this into consideration, employers can work together with clinical psychologists to ensure that adequate provisions are put in place to target posttraumatic cognitions following trauma treatment and to promote engagement in self-care activities.

### **Theoretical Implications**

The hypotheses that were tested in the present study were formulated based on previous research that has investigated factors related to STS and VPTG. Previous research findings were used to create the theoretical model in this study. The findings add to the understanding of factors that are related to STS and VPTG.

Of the five variables used to measure posttraumatic cognitions, four were related to STS in the predicted direction. Self-care was also related to VPTG in the predicted direction. Previous research has found posttraumatic cognitions to be related to PTSD and its associated symptoms, which characterise STS. Previous research has also found engagement in self-care to be related to VPTG. This study therefore has value as it contributes to the existing literature surrounding the factors that are related to STS and VPTG in clinicians who are vicariously exposed to trauma.

Although the majority of the proposed hypotheses were not supported, these findings are still important. It was hypothesised that years working as a clinical psychologist, hours per week working with traumatised clients, percentage of traumatised clients on caseload, STSE, perceived social support, and self-care would be related to STS. Furthermore, it was hypothesised that years working as a clinical psychologist, hours per week working with traumatised clients, percentage

of traumatised clients on caseload, posttraumatic cognitions, STSE, and perceived social support would be related to VPTG. With the exception of years working as a clinical psychologist being significantly related to VPTG, however in the opposite direction to that hypothesised, the analyses failed to show significant correlations between these variables. This indicates that the factors explored may not be as pertinent to STS and VPTG as previous research suggests.

### **Strengths**

A strength of the present study was that it explored the experience of both negative (i.e., STS) and positive (i.e., VPTG) psychological consequences following vicarious exposure to trauma. Much of the trauma literature has focused on individuals who have directly experienced a traumatic event, rather than those who provide trauma treatment, and research that has explored the psychological consequences experienced by clinicians has tended to focus only on the negative psychological consequences, ignoring the possibility for positive psychological consequences. The results of this study also add value to the psychological literature as, to the researcher's best knowledge, no other study has investigated both STS and VPTG in a sample of New Zealand clinical psychologists working with traumatised clients. The results therefore provide new insights into the full effect that trauma work can have on clinical psychologists. Furthermore, this study focused on a variety of factors that may be related to STS and VPTG. Whereas previous research has explored a limited number of such factors, this study aimed to incorporate several factors in order to determine those that are most likely to be related to STS and VPTG.

### **Limitations**

Several limitations were apparent in the present study. Firstly, this study focused on a very unique and specific occupational group: clinical psychologists who work with traumatised clients in New Zealand, and thus the results may not be generalisable to other occupations. Secondly, participation was voluntary and as such, the researcher cannot determine whether the sample was representative. However, a randomised sample was not feasible. Thirdly, only 72 clinical psychologists participated and

completed the online survey. The small sample size utilised means that it is possible that small to moderate effects may not have been found between the variables. In this study there was a 70% chance that a significant relationship would be detected between variables. It is also possible that the small sample size utilised may have contributed to the discrepant results that were found in comparison to previous research. Furthermore, the majority of participants were female and of European descent.

Another limitation is that clinical psychologists may have chosen not to participate in the present study due to concerns that completing the survey would increase their level of distress. As such, participants' responses, particularly in relation to STS, may have been different from non-participants' responses. In addition, a control group was not employed to compare results against. This is a limitation, because without employing a control group of clinical psychologists who do not work with traumatised clients, the researcher cannot be certain whether the results that were found were limited to clinical psychologists who do work with traumatised clients. Moreover, the survey that was completed relied solely on self-report data and thus it is not certain whether participants responded accurately or honestly. Although this may potentially threaten the validity of the data, this limitation is apparent in much of the psychological literature. Another limitation of this study was its cross-sectional design, which only shows whether variables were related to certain outcomes as opposed to having caused certain outcomes.

Limitations were also apparent in relation to the variables that were used. Although they had Cronbach's alphas of less than .7, which is considered acceptable (Field, 2013), self-doubt and STSE were both utilised in this study. Using these variables may have limited the reliability of the findings. Furthermore, the Secondary Traumatic Stress Scale (STSS) only measured the presence of STS symptoms from the previous two weeks. Thus, it is possible that participants may have experienced symptoms prior to this time frame. In regards to the Posttraumatic Growth Inventory (PTGI), this measure was designed to assess posttraumatic growth (PTG) in individuals who have directly experienced a traumatic

event (Tedeschi & Calhoun, 1996). However, in this study, the PTGI was used to measure VPTG in clinicians who were vicariously exposed to their clients' traumatic experiences. This may limit the conclusions that can be drawn.

### **Future Research**

It is important that research continues to investigate both the negative and positive psychological consequences that may be experienced by clinicians who work with traumatised clients. This is important, as discrepant results have been found in relation to the factors that are related to both STS and VPTG. Future research could replicate the present study, using a larger sample size and a control group of clinical psychologists, who do not work with traumatised clients, in order to compare the results against. As clinical psychologists may be at a greater risk of experiencing STS than other professionals, and as there is a dearth of research investigating VPTG in specific groups of clinicians (Ben-Porat, 2015), such research would be fruitful. It would also be fruitful to investigate the factors that may help to reduce, or prevent, posttraumatic cognitions following vicarious exposure to trauma, as the present study has shown that such are related to higher levels of STS. Investigating whether specific self-care activities are related to VPTG in clinical psychologists would also be useful, as this study found a significant positive relationship between self-care and VPTG however, measured self-care as a single variable. This would provide clinical psychologists with knowledge regarding the activities that are most beneficial for them to engage in. Adding to the latter, future research could also investigate the barriers associated with engaging in self-care activities.

Research assessing the relationship between STS and VPTG would also be useful, as very few studies have done so and as mixed results have been found. As it has been argued that PTG is a developmental process that occurs over time (Calhoun & Tedeschi, 2006; Tedeschi & Calhoun, 2004), a longitudinal design to measure this phenomenon should be employed in future research. Employing such a design would allow the researcher to assess whether PTG fluctuates and how long it takes to develop. In addition, a mixed methods design could be

employed, as such can expose additional aspects which may not be revealed through using only one method (Ben-Porat & Itzhaky, 2009). For example, by adding a qualitative element to the research, narrative accounts could provide further detail regarding the psychological consequences that are experienced by clinicians who work with traumatised individuals. Lastly, it would also be useful for a revised version of the STSS to be developed that parallels the diagnostic criteria for PTSD outlined in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013). Adding to the latter, it would also be useful for a measure that specifically assesses VPTG to be developed. This would ensure that positive psychological consequences are measured in relation to vicarious, as opposed to direct, exposure to trauma.

## **Conclusion**

To conclude, the present study investigated the factors that were related to STS and VPTG in clinical psychologists who work with traumatised clients in New Zealand. The results suggest that the factors thought to be related to STS and VPTG are perhaps not as pertinent as previous research has shown. Of the factors investigated, only posttraumatic cognitions correlated significantly with STS, and only self-care correlated significantly with VPTG. Posttraumatic cognitions and self-care were also found to correlate significantly with some of the predictor variables. Posttraumatic cognitions were found to correlate significantly with hours per week working with traumatised clients, STSE, perceived social support, and self-care. Additionally, self-care was found to correlate significantly with perceived social support.

In order to ensure effective and safe practice, the results of the present study suggest that clinicians should monitor their negative cognitions following vicarious exposure to trauma and act in appropriate ways to reduce or prevent experiencing such. The results also suggest that the benefits of self-care should be promoted and that clinicians should engage in self-care activities, both in and out of the workplace. Lastly, the findings demonstrate that it may be beneficial for clinical psychologists to work fewer hours per week with traumatised clients, and to foster both



their beliefs about their ability to deal with trauma-related demands and symptoms of STS, and their interpersonal relationships with significant others, friends, and family. The findings of this study highlight the need to conduct future research, specifically to identify the factors that are related to STS and VPTG in clinical psychologists who are vicariously exposed to trauma, and to determine the ways in which STS can be prevented and VPTG can be facilitated.

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## **Appendix A**

Dear NZCCP/NZPsS members,

My name is Madeleine Stapleton. I am currently in my fifth year of study at the University of Waikato where I am completing a Master of Social Sciences. For the thesis component of my degree I am looking into the negative and positive psychological consequences experienced by New Zealand clinical psychologists who work with traumatised clients. Ultimately, the goal of my research is to determine the factors that lead to the development of secondary traumatic stress, and the factors that facilitate the development of vicarious posttraumatic growth.

In order to reach this goal, I have created an online survey that I hope you will participate in. Completion of this survey is voluntary and takes approximately 15 minutes. Should you decide to participate in this study and complete the survey, this will be considered by the researcher as giving consent. The survey will ask for demographic information as well as information relating to secondary traumatic stress symptoms, cognitions after being vicariously exposed to traumatic events, potential growth after such exposure, self-efficacy, perceived social support, and engagement in self-care strategies.

Participants will have the right to withdraw from this study prior to their survey response being recorded. As survey responses will remain anonymous, once your response has been recorded it cannot be traced back to you or be removed from the data file. Responses will be stored by the researcher on an external hard-drive and will be viewed by the researcher herself as well as the two supervisors of this study: Jo Thakker and Michael O'Driscoll.

Should you experience discomfort after completing the survey, it is encouraged that you seek the appropriate support from your supervisor. Alternatively, you can contact Jo Thakker, who is both a supervisor of this study and a registered clinical psychologist. Her contact phone number is 0274699953.

If you would like to participate in this study and complete the survey, please do so within seven days of receiving this email. To complete the survey, click on the link below and follow the instructions.

### **Survey link:**

[https://waikato.qualtrics.com/SE/?SID=SV\\_6XyiJ8vxGKDwhal](https://waikato.qualtrics.com/SE/?SID=SV_6XyiJ8vxGKDwhal)

If you have any questions about this study, please do not hesitate to contact myself via the email address below. Alternatively, if you need to contact the supervisors of this study, you can do so via the email addresses below.



**Contact email addresses:**

Madeleine Stapleton: [maddiestapleton@windowslive.com](mailto:maddiestapleton@windowslive.com)

Jo Thakker: [jthakker@waikato.ac.nz](mailto:jthakker@waikato.ac.nz)

Michael O'Driscoll: [m.odriscoll@waikato.ac.nz](mailto:m.odriscoll@waikato.ac.nz)

This research project has been approved by the School of Psychology Research and Ethics Committee of the Faculty of Arts and Social Sciences, University of Waikato. Any questions about the ethical conduct of this research may be sent to the convener of the Research and Ethics Committee (Dr Rebecca Sargisson) via the phone number or email address below:

Phone: (07) 557 8673

Email: [rebeccas@waikato.ac.nz](mailto:rebeccas@waikato.ac.nz)

Thank-you for taking the time to read this email.

## Appendix B

The following survey seeks to gain an understanding of both the negative and positive psychological consequences that New Zealand clinical psychologists may experience as a result of their work with traumatised clients. Included in this survey are seven different sections (A, B, C, D, E, F, and G). Each section has a different set of instructions to follow. Please read the instructions carefully and answer each question truthfully. Completion of this survey should take approximately 15 minutes and your responses will remain anonymous. Please only complete this survey if you are currently practicing as a clinical psychologist in New Zealand and if you work with traumatised clients. Traumatized clients can be defined as clients you work with who have had an emotional response to a terrible event, for example a natural disaster or physical or sexual assault. Such clients typically experience shock and denial after the traumatic event has happened and may have the following reactions: unpredictable emotions, flashbacks, strained relationships, and physical symptoms, for example headaches or nausea. If you work with clients who fit this description, please continue on to the next page and begin responding to the survey questions. If you do not work with clients who fit this description, please discontinue here and do not begin responding to the survey questions.

### Section A:

The following questions are necessary in order to describe the sample and to assess the representativeness of the sample against clinical psychologists in New Zealand.

Q1 What is your age?

Q2 What is your gender?

- ☐ Male
- ☐ Female
- ☐ Other - Please specify \_\_\_\_\_

Q3 What is your ethnicity?

- ☐ Maori
- ☐ European
- ☐ Asian
- ☐ Pacific Peoples
- ☐ Middle Eastern/Latin American/African
- ☐ Other - Please specify \_\_\_\_\_

Q4 What is your work setting?

- ☐ Public
- ☐ Private
- ☐ Both

Q5 How many years and months have you been working as a clinical psychologist?

Q6 What is your primary therapeutic practice orientation?

Q7 How many hours per week do you spend working as a clinical psychologist?

Q8 How many hours per week do you spend working with traumatised clients?

Q9 What is the percentage (%) of traumatised clients on your caseload?

Q10 What type of traumatised clients do you work with?

- ☐ Children/Adolescents
- ☐ Adults
- ☐ Both

Q11 Select from the list below whether you are, or are not, exposed to each traumatic event as part of your work with traumatised clients.

1 = I am exposed to this as part of my work with traumatised clients, 2 = I am not exposed to this as part of my work with traumatised clients

- ☐ Natural disaster (e.g., flood, hurricane, tornado, earthquake)
- ☐ Fire or explosion
- ☐ Transportation accident (e.g., car accident, boat accident, train wreck, plane crash)
- ☐ Serious accident at work, home, or during recreational activity
- ☐ Exposure to toxic substance (e.g., dangerous chemicals, radiation)
- ☐ Physical assault (e.g., being attacked, hit, slapped, kicked, beaten up)
- ☐ Assault with a weapon (e.g., being shot, stabbed, threatened with a knife, gun, bomb)
- ☐ Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)
- ☐ Other unwanted or uncomfortable sexual experience
- ☐ Combat or exposure to war zone (in the military or as a civilian)
- ☐ Captivity (e.g., being kidnapped, abducted, held hostage, prisoner of war)
- ☐ Life-threatening illness or injury
- ☐ Severe human suffering
- ☐ Sudden violent death (e.g., homicide, suicide)

- ☐ Sudden accidental death
- ☐ Any other very stressful event or experience

Q12 Select from the list below whether you have, or have not, personally experienced the traumatic event.

1 = I have personally experienced this, 2 = I have not personally experienced this

- ☐ Natural disaster (e.g., flood, hurricane, tornado, earthquake)
- ☐ Fire or explosion
- ☐ Transportation accident (e.g., car accident, boat accident, train wreck, plane crash)
- ☐ Serious accident at work, home, or during recreational activity
- ☐ Exposure to toxic substance (e.g., dangerous chemicals, radiation)
- ☐ Physical assault (e.g., being attacked, hit, slapped, kicked, beaten up)
- ☐ Assault with a weapon (e.g., being shot, stabbed, threatened with a knife, gun, bomb)
- ☐ Sexual assault (rape, attempted rape, made to perform any type of sexual act through force or threat of harm)
- ☐ Other unwanted or uncomfortable sexual experience
- ☐ Combat or exposure to war zone (in the military or as a civilian)
- ☐ Captivity (e.g., being kidnapped, abducted, held hostage, prisoner of war)
- ☐ Life-threatening illness or injury
- ☐ Severe human suffering
- ☐ Sudden violent death (e.g., homicide, suicide)
- ☐ Sudden accidental death
- ☐ Any other very stressful event or experience

Q13 Please indicate the degree to which the trauma you have personally experienced has been resolved.

- ☐ Totally unresolved
- ☐ Mostly unresolved
- ☐ Slightly unresolved
- ☐ Neither unresolved nor resolved
- ☐ Slightly resolved
- ☐ Mostly resolved
- ☐ Totally resolved

## **Section B:**

Q14 The following is a list of statements that may or may not be representative of your experiences after being indirectly exposed to traumatic experience(s) through your work with traumatised clients. Read

each statement then indicate how frequently the statement was true for you in the *past two weeks*.

1 = Never, 2 = Rarely, 3 = Occasionally, 4 = Often, 5 = Very Often

- ☐ I felt emotionally numb
- ☐ My heart started pounding when I thought about my work with clients
- ☐ It seemed as if I was reliving the trauma(s) experienced by my client(s)
- ☐ I had trouble sleeping
- ☐ I felt discouraged about the future
- ☐ Reminders of my work with clients upset me
- ☐ I had little interest in being around others
- ☐ I felt jumpy
- ☐ I was less active than usual
- ☐ I thought about my work with clients when I didn't intend to
- ☐ I had trouble concentrating
- ☐ I avoided people, places, or things that reminded me of my work with clients
- ☐ I had disturbing dreams about my work with clients
- ☐ I wanted to avoid working with some clients
- ☐ I was easily annoyed
- ☐ I expected something bad to happen
- ☐ I noticed gaps in my memory about client sessions

### **Section C:**

Q15 The following is a list of statements that may or may not be representative of your thinking after being indirectly exposed to traumatic experience(s) through your work with traumatised clients. Read each statement then indicate how much you agree or disagree with the statement.

1 = Totally disagree, 2 = Disagree very much, 3 = Disagree slightly, 4 = Neutral, 5 = Slightly agree, 6 = Agree very much, 7 = Totally agree

- ☐ I can't trust that I will do the right thing
- ☐ I am a weak person
- ☐ I will not be able to control my anger and will do something terrible
- ☐ I can't deal with even the slightest upset
- ☐ I used to be a happy person but now I am always miserable
- ☐ People can't be trusted
- ☐ I have to be on guard all the time
- ☐ I feel dead inside
- ☐ You can never know who will harm you
- ☐ I have to be especially careful because you never know what can happen next

- ☐ I am inadequate
- ☐ If I think about the event, I will not be able to handle it
- ☐ My reactions since the event mean that I am going crazy
- ☐ I will never be able to feel normal emotions again
- ☐ The world is a dangerous place
- ☐ I have permanently changed for the worse
- ☐ I feel like an object, not like a person
- ☐ I can't rely on other people
- ☐ I feel isolated and set apart from others
- ☐ I have no future
- ☐ I can't stop bad things from happening to me
- ☐ People are not what they seem
- ☐ My life has been destroyed by the trauma
- ☐ There is something wrong with me as a person
- ☐ My reactions since the event show that I am a lousy copier
- ☐ I feel like I don't know myself anymore
- ☐ I can't rely on myself
- ☐ Nothing good can happen to me anymore

#### **Section D:**

Q16 The following is a list of statements that may or may not be representative of changes that have occurred for you after being indirectly exposed to traumatic experience(s) through your work with traumatised clients. Read each statement then indicate the degree to which the change occurred in your life as a result of your work.

0 = I did not experience this change, 1 = I experienced this change to a very small degree, 2 = I experienced this change to a small degree, 3 = I experienced this change to a moderate degree, 4 = I experienced this change to a great degree, 5 = I experienced this change to a very great degree

- ☐ I have changed my priorities about what is important in life
- ☐ I have a greater appreciation for the value of my own life
- ☐ I developed new interests
- ☐ I have a greater feeling of self-reliance
- ☐ I have a better understanding of spiritual matters
- ☐ I more clearly see that I can count on people in times of trouble
- ☐ I established a new path for my life
- ☐ I have a greater sense of closeness with others
- ☐ I am more willing to express my emotions
- ☐ I know better that I can handle difficulties
- ☐ I am able to do better things with my life
- ☐ I am better able to accept the way things work out

- ☐ I can better appreciate each day
- ☐ New opportunities are available which wouldn't have been otherwise
- ☐ I have more compassion for others
- ☐ I put more effort into my relationships
- ☐ I am more likely to try to change things which need changing
- ☐ I have a stronger religious faith
- ☐ I discovered that I'm stronger than I thought I was
- ☐ I learned a great deal about how wonderful people are
- ☐ I better accept needing others

### **Section E:**

Q17 The following is a list of statements that may or may not be representative of your thoughts or feelings after being indirectly exposed to traumatic experience(s) through your work with traumatised clients. Read each statement then indicate, as you currently believe, how capable you are to deal with it.

"How capable am I to..."

1 = Very incapable, 2 = Incapable, 3 = Somewhat incapable, 4 = Neither incapable nor capable, 5 = Somewhat capable, 6 = Capable, 7 = Very capable

- ☐ Deal with my emotions (anger, sadness, depression, anxiety) about working with these people
- ☐ Find some meaning in what had happened to these people
- ☐ Control recurring distressing thoughts or images about these people
- ☐ Deal with thoughts that similar things may happen to me
- ☐ Be supportive to others after my experiences with these people
- ☐ Cope with thoughts that I can't handle working with these people anymore
- ☐ Get help from others to better handle working with these people

### **Section F:**

Q18 The following is a list of statements regarding your perceived social support. Read each statement then indicate how much you agree or disagree with the statement in relation to your work with traumatised clients.

1 = Very strongly disagree, 2 = Strongly disagree, 3 = Mildly disagree, 4 = Neutral, 5 = Mildly agree, 6 = Strongly agree, 7 = Very strongly agree

- ☐ There is a special person who is around when I am in need
- ☐ There is a special person with whom I can share my joys and sorrows
- ☐ My family really tries to help me

- ☐ I get the emotional help and support I need from my family
- ☐ I have a special person who is a real source of comfort to me
- ☐ My friends really try to help me
- ☐ I can count on my friends when things go wrong
- ☐ I can talk about my problems with my family
- ☐ I have friends with whom I can share my joys and sorrows
- ☐ There is a special person in my life who cares about my feelings
- ☐ My family is willing to help me make decisions
- ☐ I can talk about my problems with my friends

### **Section G:**

Q19 The following is a list of statements regarding self-care. Read each statement then indicate how frequently the statement is true for you. Although there are 65 items in this scale and this may seem like a lot, it is important that each item is answered as six different aspects of self-care are being assessed.

1 = Never, 2 = Rarely, 3 = Occasionally, 4 = Often, 5 = Very often

- ☐ Eat regularly (e.g., breakfast, lunch, and dinner)
- ☐ Eat healthy
- ☐ Exercise
- ☐ Get regular medical care for prevention
- ☐ Get medical care when needed
- ☐ Take time off when needed
- ☐ Get massages
- ☐ Dance, swim, walk, run, play sports, sing, or do some other physical activity that is fun
- ☐ Take time to be sexual-with yourself, with a partner
- ☐ Get enough sleep
- ☐ Wear clothes you like
- ☐ Take vacations
- ☐ Take day trips or mini-vacations
- ☐ Make time away from telephones
- ☐ Make time for self-reflection
- ☐ Have your own personal psychotherapy
- ☐ Write in a journal
- ☐ Read literature that is unrelated to work
- ☐ Do something at which you are not an expert in or in charge
- ☐ Decrease stress in your life
- ☐ Let others know different aspects of you
- ☐ Notice your inner experience-listen to your thoughts, judgments, beliefs, attitudes, and feelings
- ☐ Engage your intelligence in a new area (e.g., go to an art museum, history exhibit, sports event, auction, theatre performance)



- Practice receiving from others
- Be curious
- Say "no" to extra responsibilities sometimes
- Spend time with others whose company you enjoy
- Stay in contact with important people in your life
- Give yourself affirmations, praise yourself
- Love yourself
- Re-read favourite books, re-view favourite movies
- Identify comforting activities, objects, people, relationships, places and seek them out
- Allow yourself to cry
- Find things that make you laugh
- Express your outrage in social action, letters and donations, marches, protests
- Play with children
- Make time for reflection
- Spend time with nature
- Find a spiritual connection or community
- Be open to inspiration
- Cherish your optimism and hope
- Be aware of non-material aspects of life
- Try at times not to be in charge or the expert
- Be open to not knowing
- Identify what is meaningful to you and notice its place in your life
- Meditate
- Pray
- Sing
- Spend time with children
- Have experiences of awe
- Contribute to causes in which you believe
- Read inspirational literature (talk, music, etc.)
- Take a break during the workday (e.g., lunch)
- Take time to chat with co-workers
- Make quiet time to complete tasks
- Identify projects or tasks that are exciting and rewarding
- Set limits with your clients and colleagues
- Balance your caseload so that no one day or part of a day is "too much"
- Arrange your work space so that it is comfortable and comforting
- Get regular supervision or consultation
- Negotiate for your needs (benefits, pay raise)
- Have a peer support group
- Develop a non-trauma area of professional interest
- Strive for balance within your work-life and workday
- Strive for balance among work, family, relationships, play and rest

There are no more questions included in this survey. Your response will be submitted should you continue on to the next page. If you wish to review or change your responses you will need to go back and do so before continuing on to the next page. Thank-you for taking the time to complete this survey.

## Appendix C

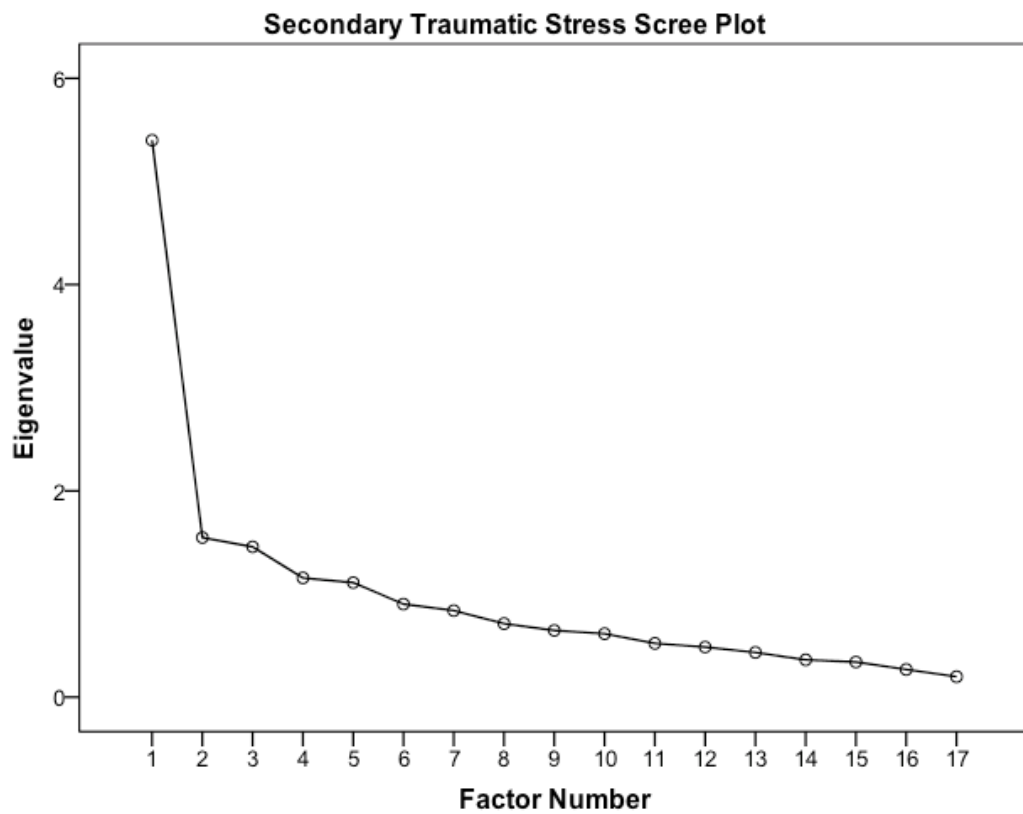


Figure 3. Scree plot for secondary traumatic stress.

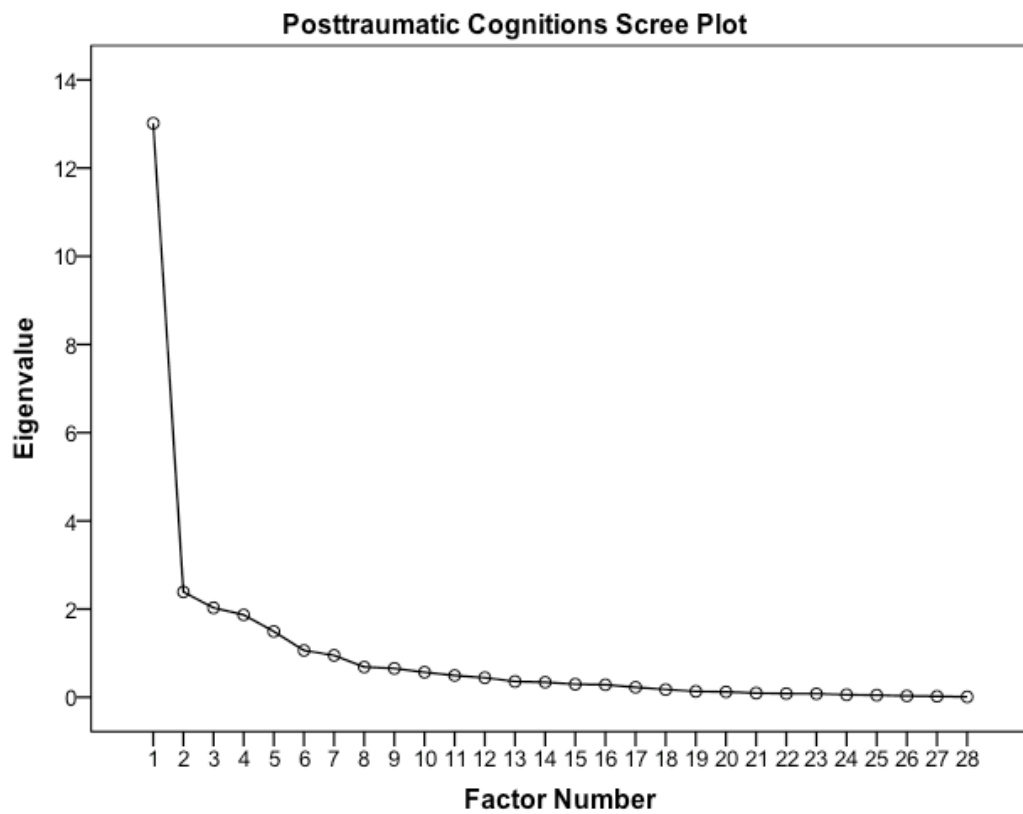


Figure 4. Scree plot for posttraumatic cognitions.

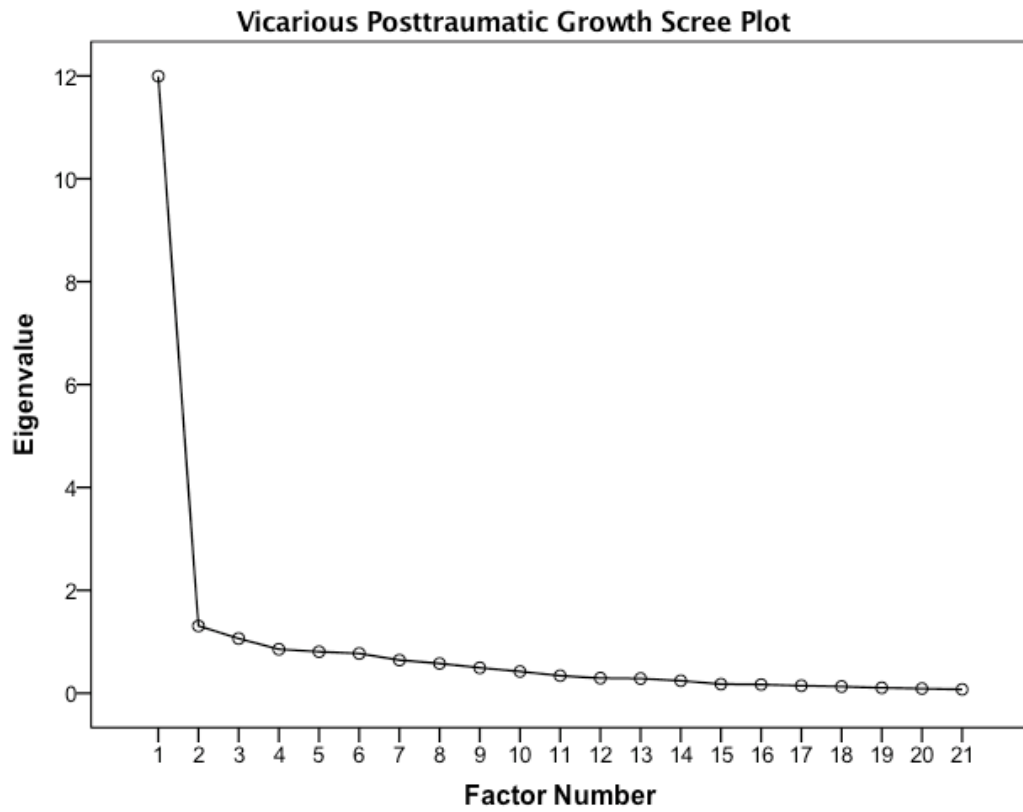


Figure 5. Scree plot for vicarious posttraumatic growth.

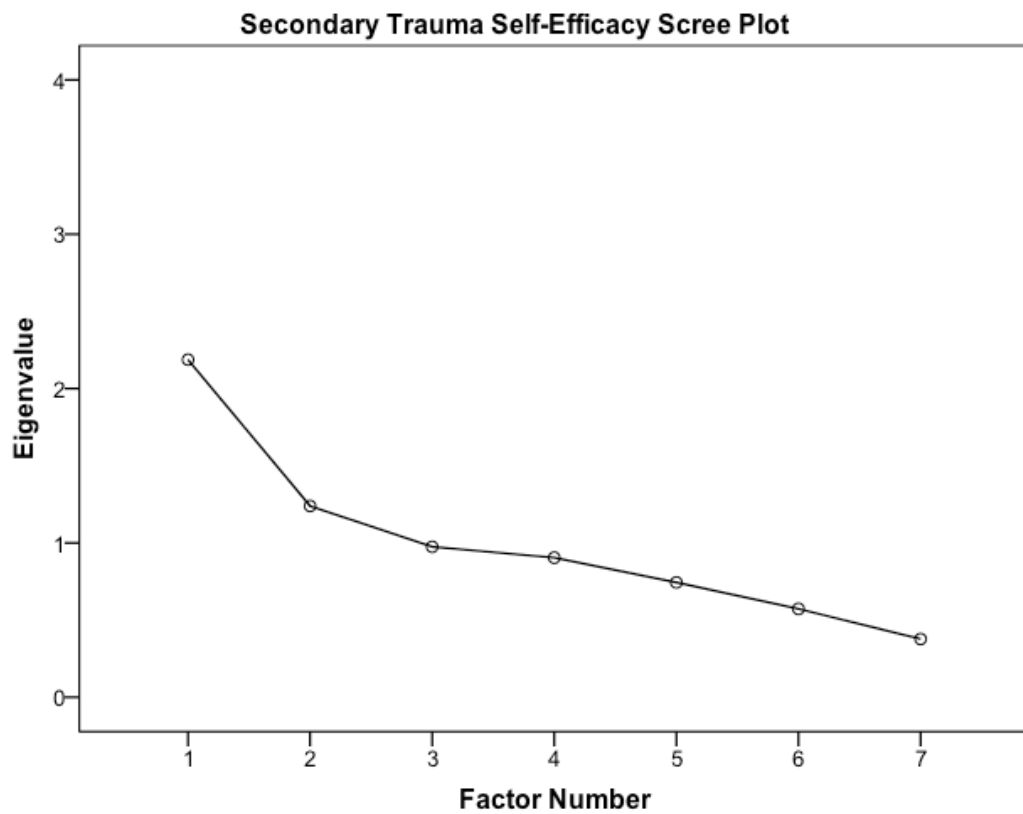
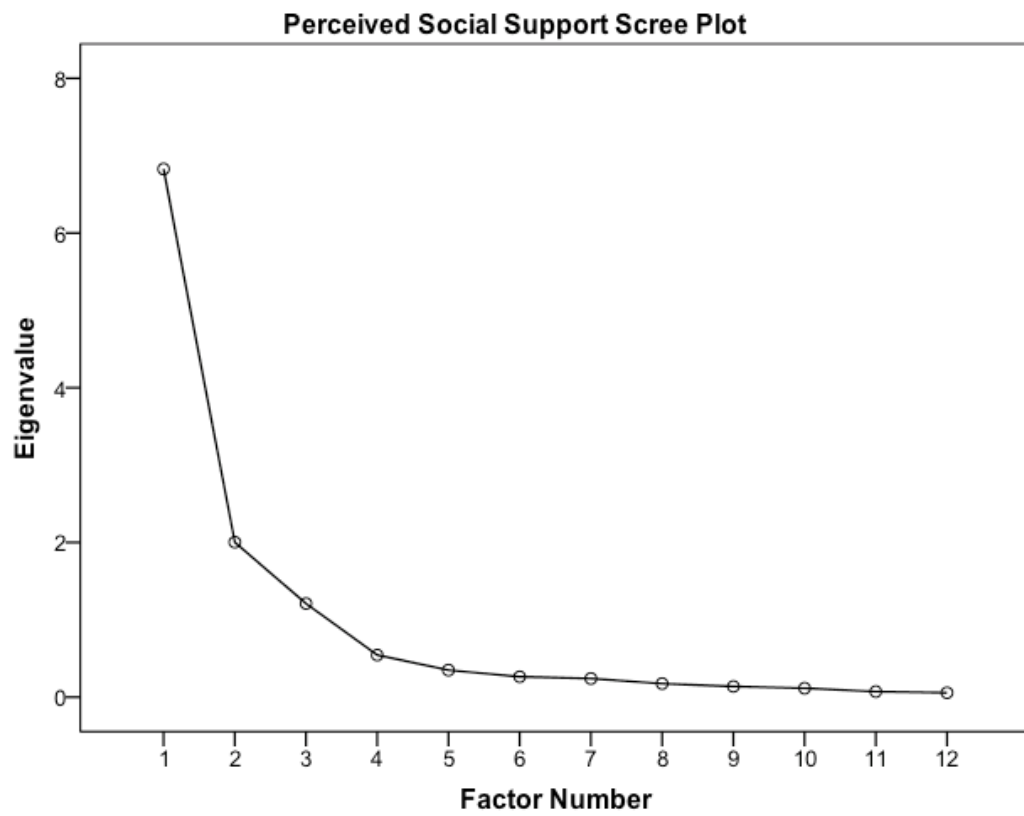


Figure 6. Scree plot for secondary trauma self-efficacy.



*Figure 7.* Scree plot for perceived social support.

## Appendix D

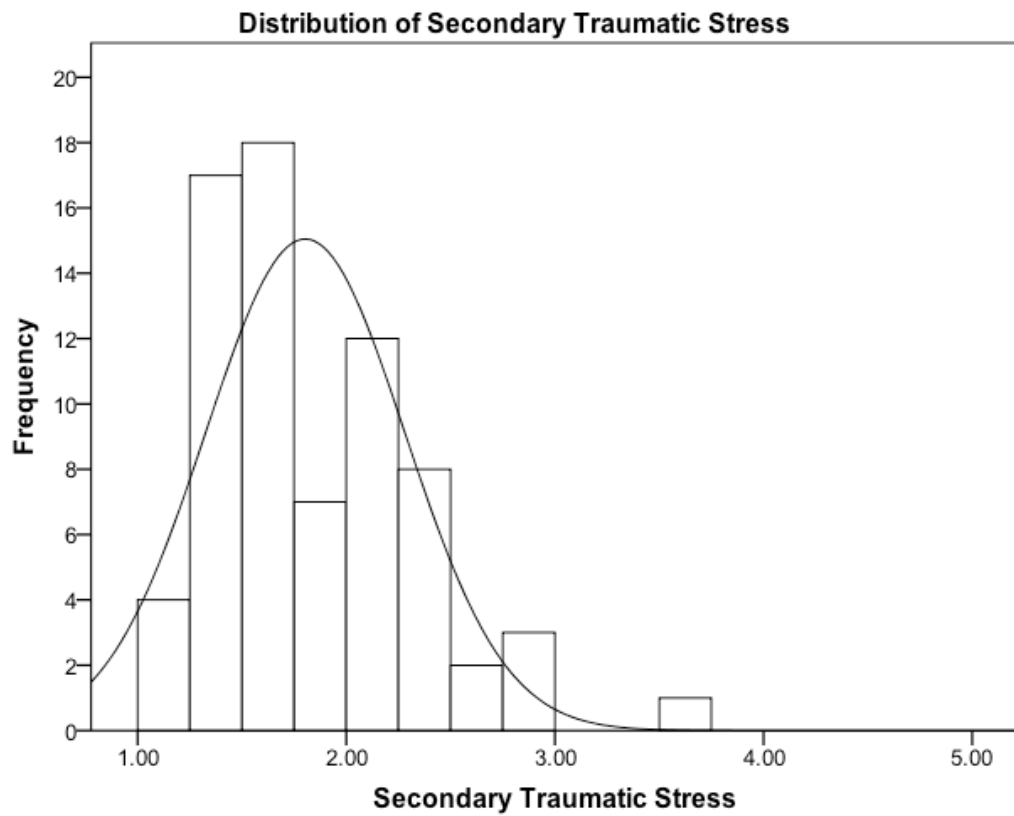


Figure 8. Distribution of secondary traumatic stress.

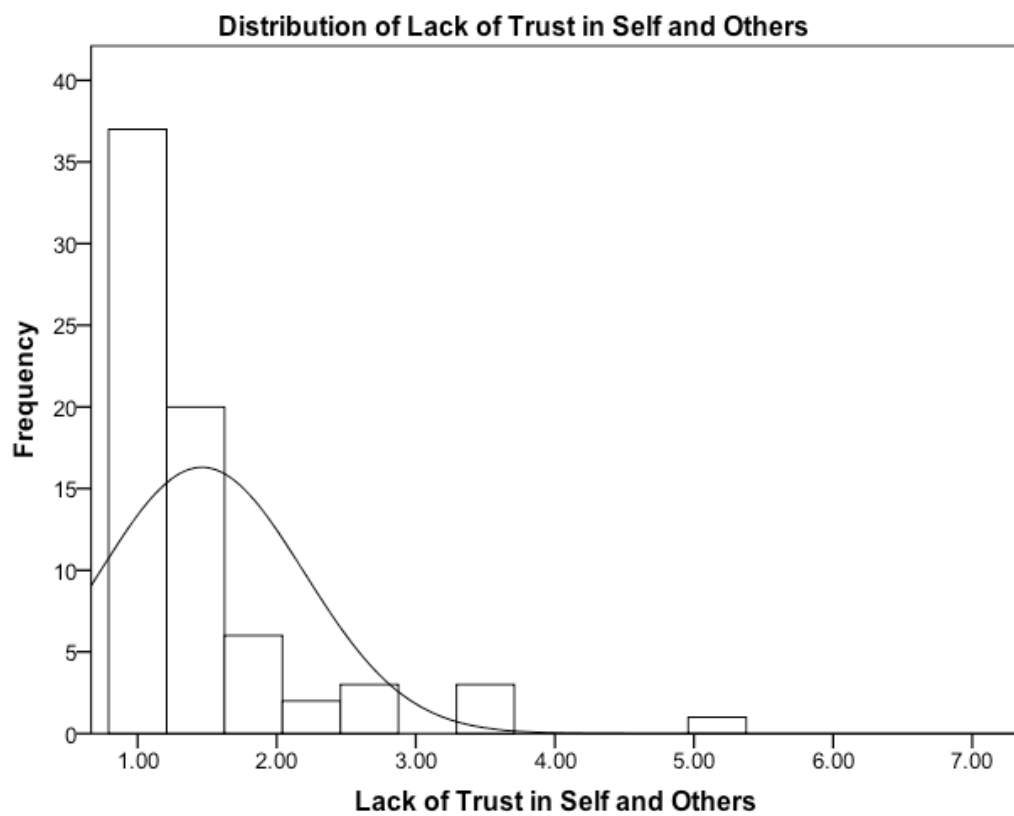
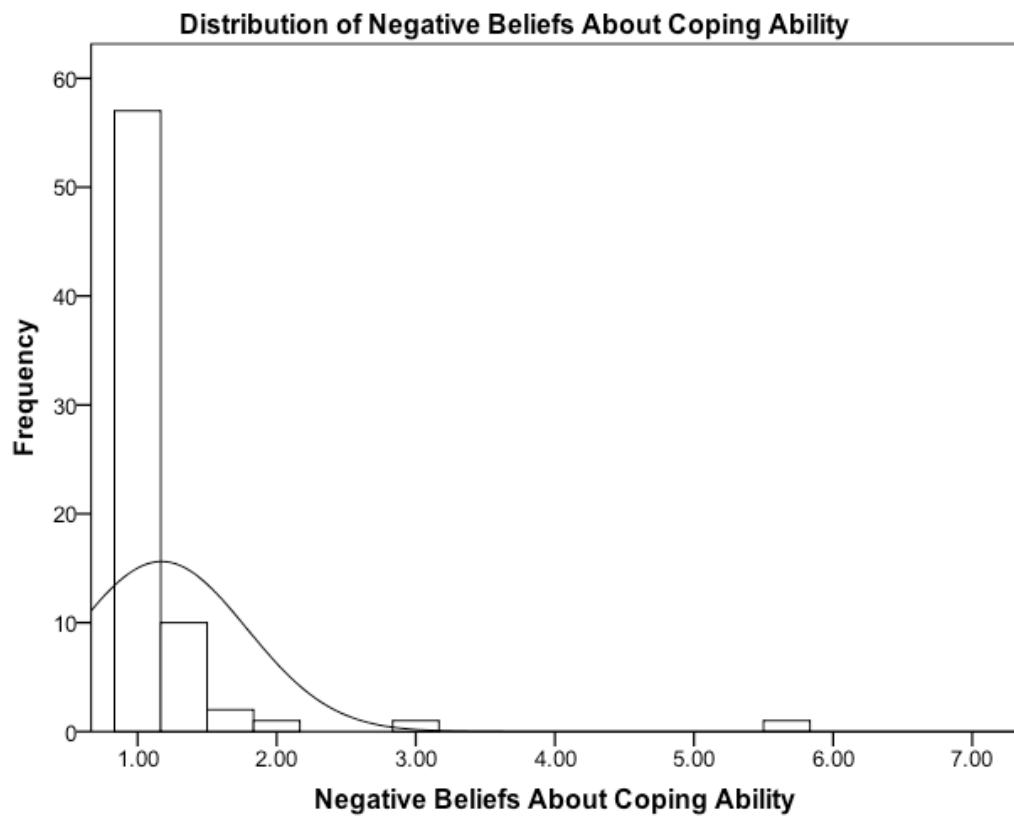
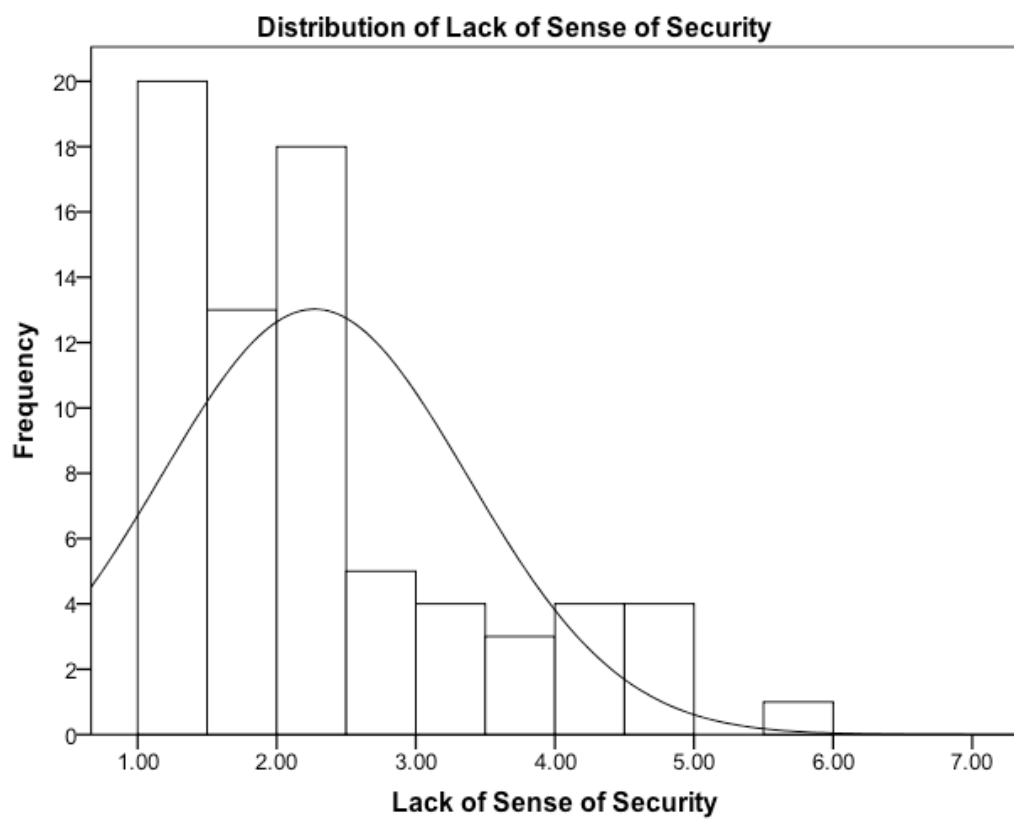


Figure 9. Distribution of lack of trust in self and others.



*Figure 10.* Distribution of negative beliefs about coping ability.



*Figure 11.* Distribution of lack of sense of security.

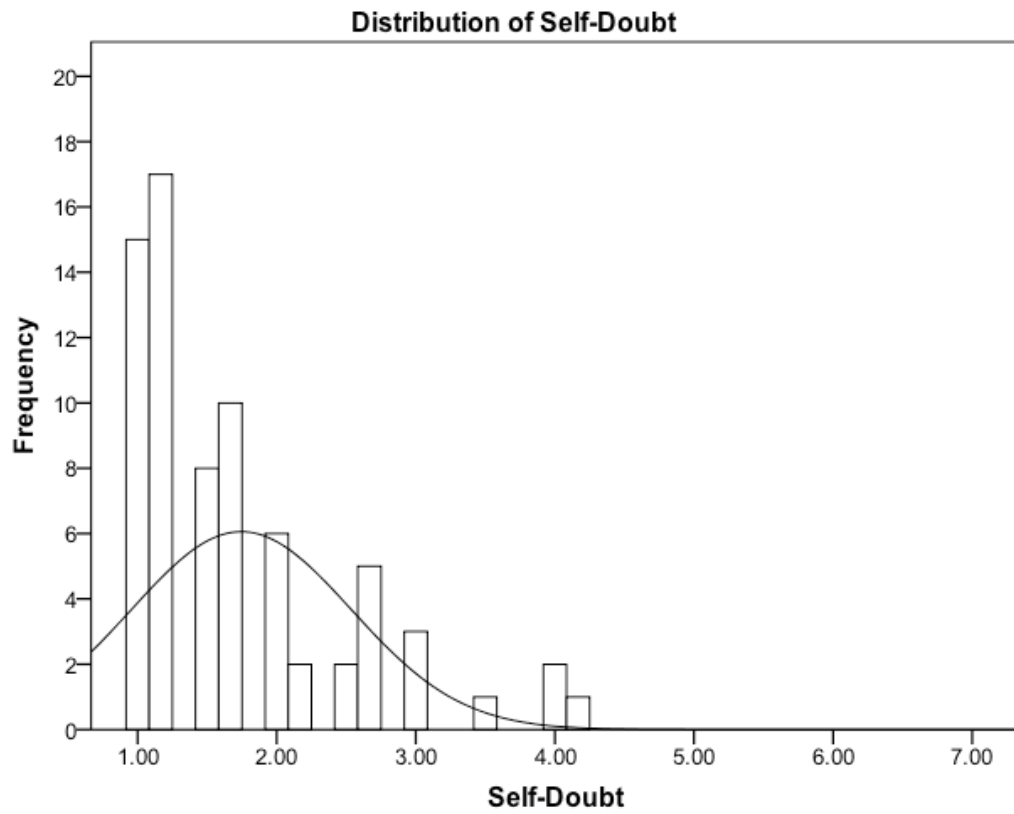


Figure 12. Distribution of self-doubt.

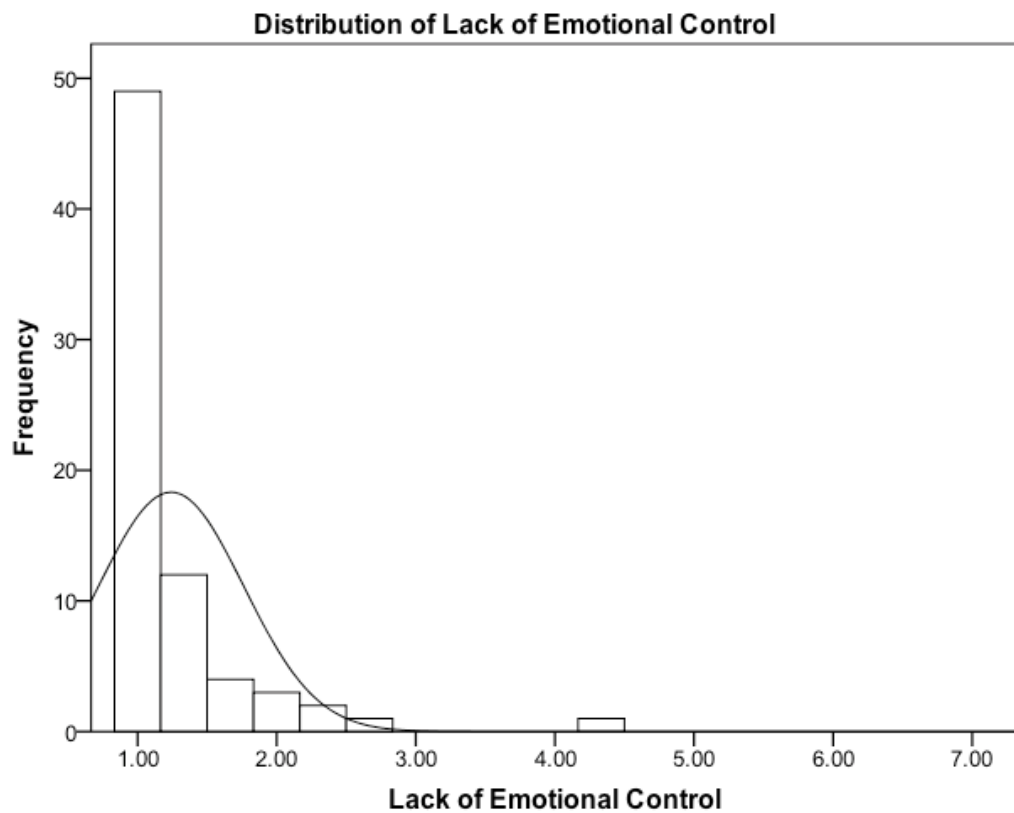


Figure 13. Distribution of lack of emotional control.



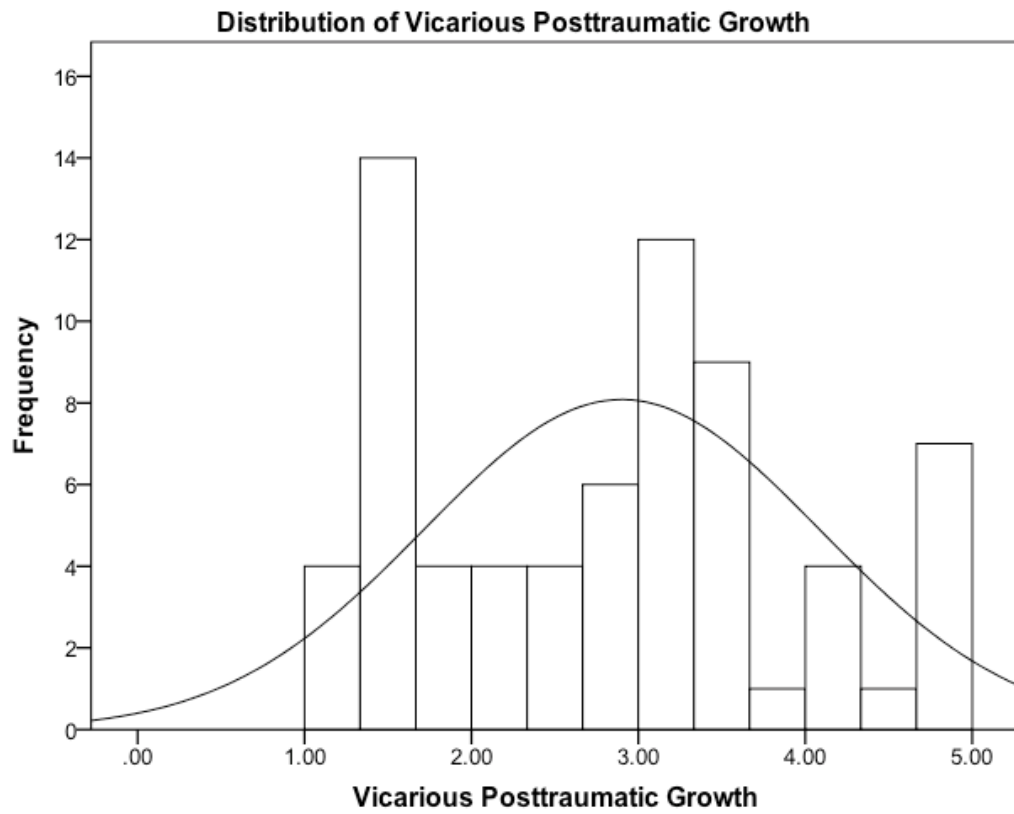


Figure 14. Distribution of vicarious posttraumatic growth.

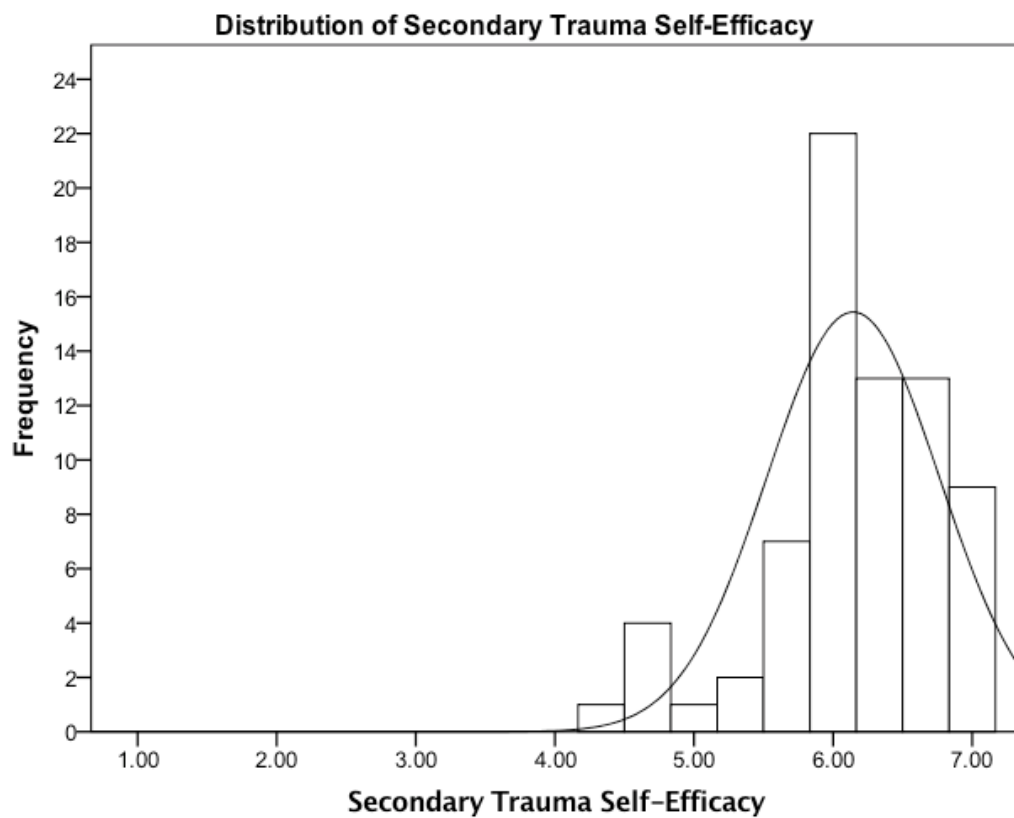


Figure 15. Distribution of secondary trauma self-efficacy.

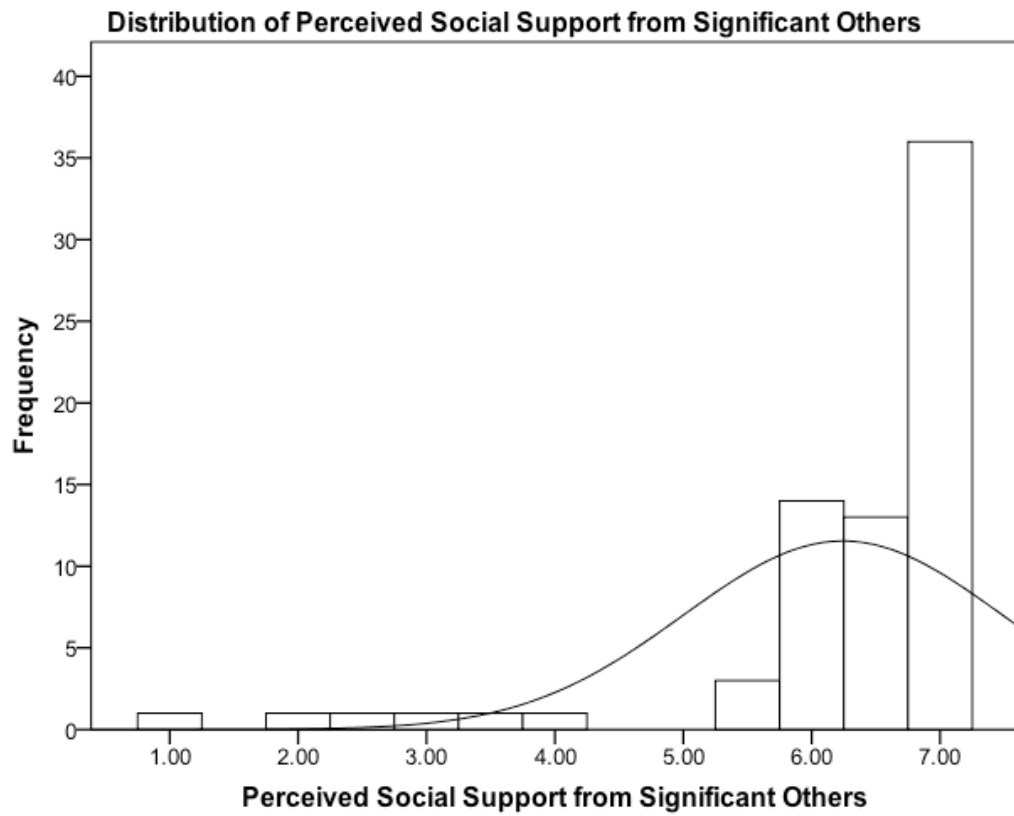


Figure 16. Distribution of perceived social support from significant others.

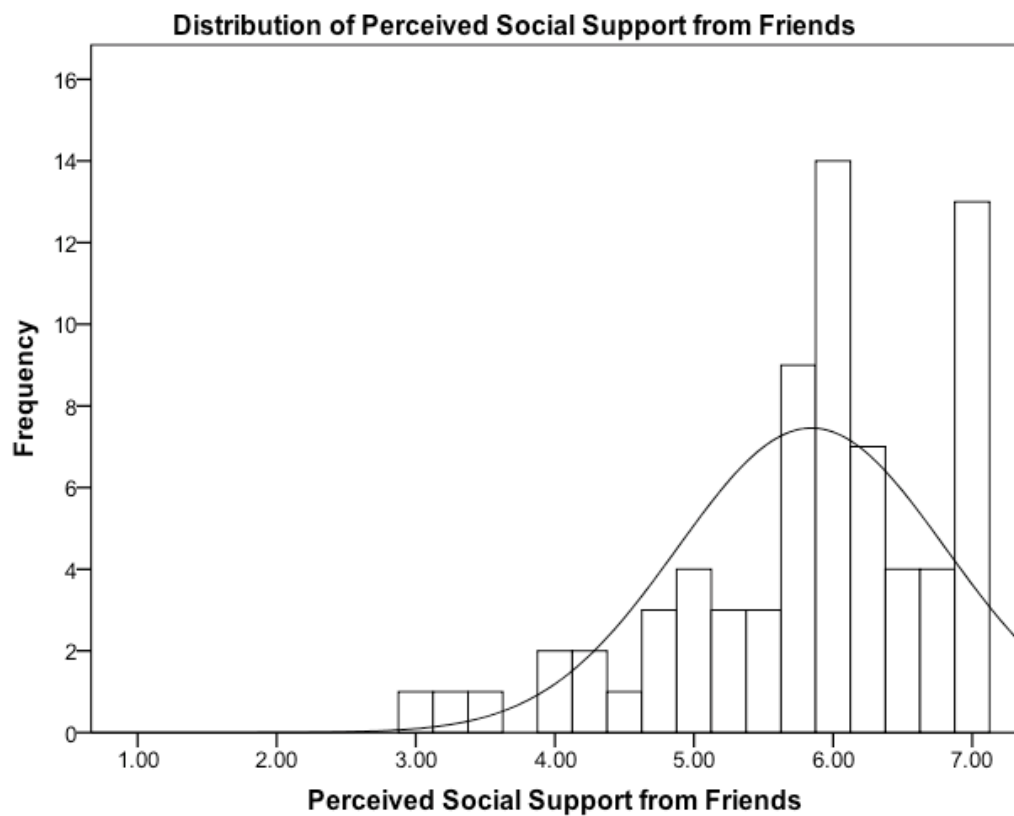
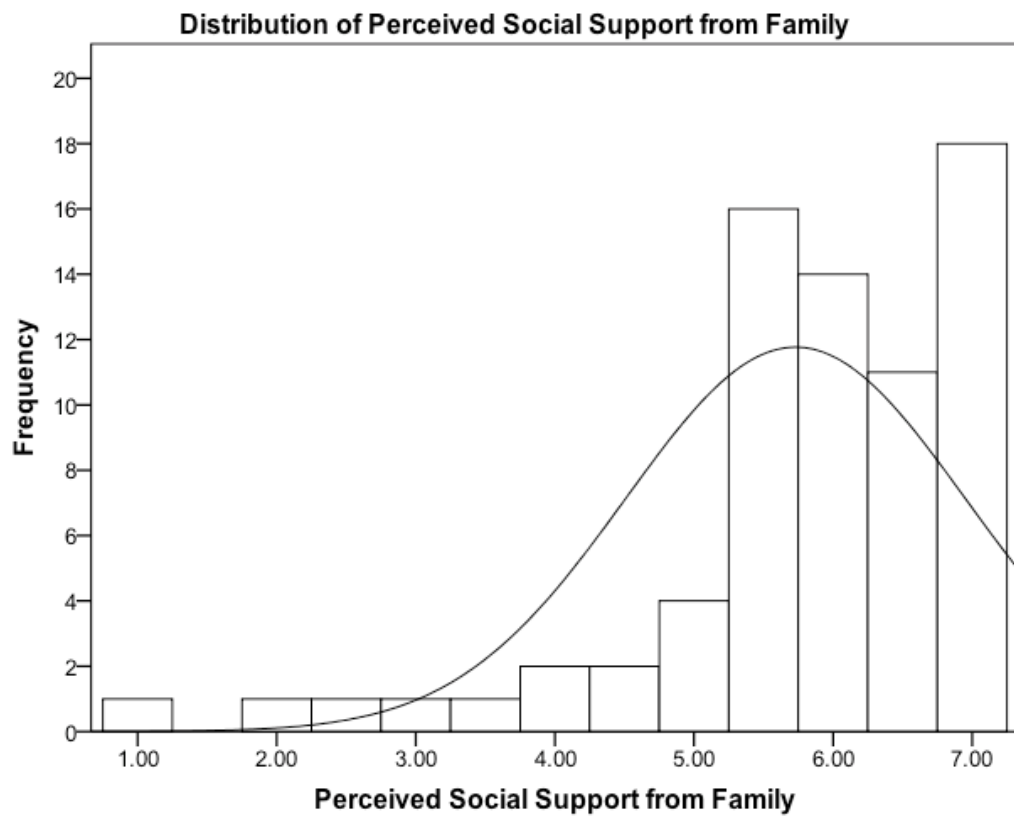
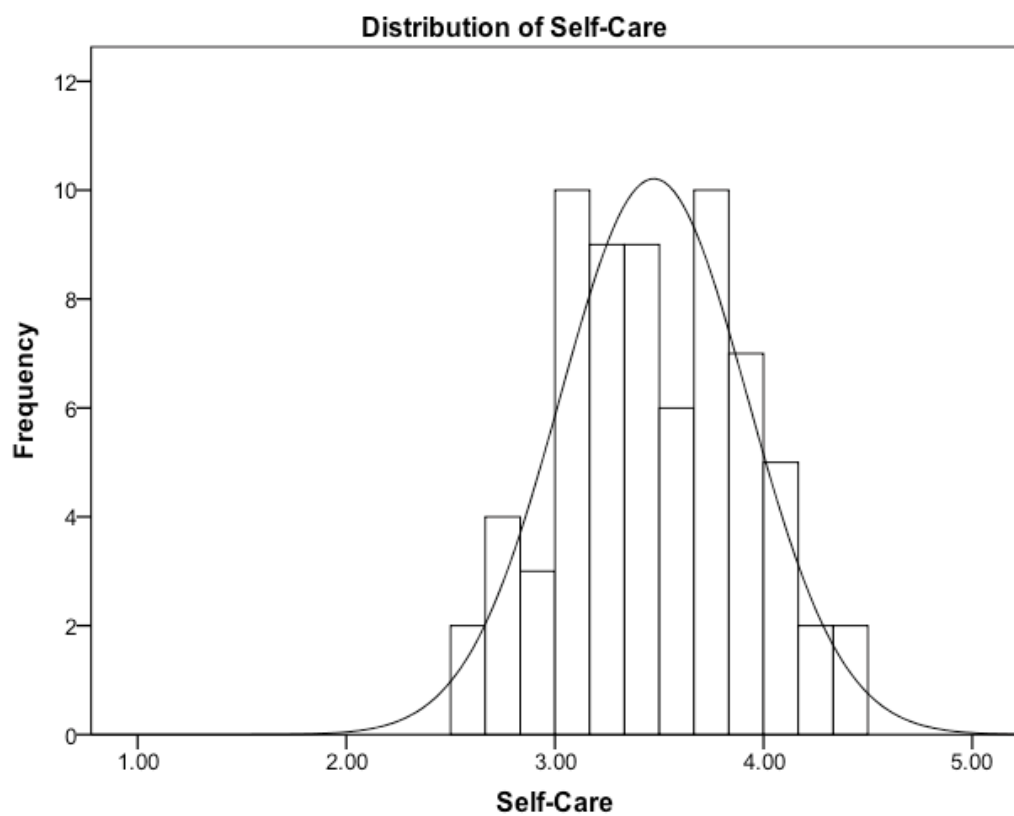


Figure 17. Distribution of perceived social support from friends.



*Figure 18.* Distribution of perceived social support from family.



*Figure 19.* Distribution of self-care.